SERVICE MANUAL

MODEL 1701/1702 MONITOR

Preliminary

OCT. 1984 PN-314004-01

commodore
COMPUTERS

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Commodore Business Machines, Inc.
1200 Wilson Drive, West Chester, Pennsylvania 19380 U.S.A.

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C1701/C1702 COLOR MONITORS
PRODUCT SPECIFICATION

GENERAL DESCRIPTION

The C1701 and C1702 are quality, high resolution color monitors, designed to maximize the video capabilities of your Commodore Computer. They give you a superior color picture that enhances your computing experience and are completely compatible with all Commodore equipment.

SCREEN SIZE

13 Inch (screen measured diagonally). NTSC color standard

DISPLAY

40 Columns x 25 lines

RESOLUTION

1000 Characters per screen

CONTROLS

Color, tint, brightness, contrast, volume, vertical hold and horizontal hold

AUDIO

Built-in audio amplifier and speaker

INPUTS

Chrominance, luminance, composite video and audio

OTHER FEATURES

Video cassette recorder compatible (1V p-p, 75 Ohms)

COMPUTERS

Commodore 64, VIC 20, Plus/4 and C16

POWER REQUIREMENTS

120 Volts, 60 Hz, 0.85 Amps

POWER CONSUMPTION

87 Watts

All specifications subject to change without notice.

SAFETY PRECAUTIONS

1. This product contains special designed circuits and components that were designed for safety purposes.

   For continued protection, changes should not be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.

2. Alterations to the design or circuitry of this receiver should not be made. Any design alterations or additions will void the manufactuer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.

3. Many electrical and mechanical parts in MONITOR sets have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of this service manual. Electrical components having such features are identified by shading on the schematics and by (*) on the parts list in this service manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list may create shock, fire, or other hazards.

4. If any repair has been made to the chassis, it is recommended the the B_1 setting be checked or adjusted (See ADJUSTMENT OF B_1 VOLTAGE).

5. The high voltage applied to the picture tube must conform with that specified in this service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube, must be the exact replacements or alternatives approved by the manufacturer of the complete product.

6. Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10kΩ 2W resistor to the anode button.

7. When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.

SAFETY PRECAUTIONS (Continued)

8. **ISOLATION CHECK (SAFETY FOR ELECTRICAL SHOCK HAZARD)**

After re-assembling the product, always perfrom an isolation check on the exposed metal parts of the cabinet, screwheads, cable jacks, controls shafts, etc., to be sure the product is safe to operate without danger of electrical shock.

(A) **DIELECTRIC STRENGTH TEST**

The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 1,100V AC (r.m.s.) for a period of one second.

This method of test requires test equipment not generally found in the service trade.*

(B) **LEAKAGE CURRENT CHECK**

Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check). Using a ''Leakage Current Tester'', measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA.

* **ALTERNATE CHECK METHOD**

Plug the AC line cord directly into the AC output (do not use a line isolation transformer during this check). Use an AC voltmeter having 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.).

Measure the AC voltage across the resistor with the AC voltmeter.

Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.35V AC (r.m.s). This corresponds to 0.5mA AC (r.m.s.).

CAUTION:

When troubleshooting, with power applied, use an isolation transformer and confirm that the CRT earth wire is connected to the CRT socket board and the chassis.

ADJUSTMENTS — PURITY, CONVERGENCE AND WHITE BALANCE

PICTURE TUBE

The picture tube is a precision in-line gun type. For this picture tube, dynamic convergence is carried out by a precision deflection yoke which eliminates the use of a convergence yoke and a convergence circuit. The adjustment of the picture tube is therefore made easier as only the adjustment of static convergence by using a magnet is enough. The deflection yoke and purity/convergency magnets assembly has been set at the factory and requires no field adjustments.

However, should the assembly be accidentally jarred or tampered with, some or all adjustment may be necessary.

COLOR PURITY & VERTICAL CENTER

Loosen yoke retaining clamp (Fig. 2-1). With a sharp knife, cut between the picture tube and the wedge. Remove wedges completely and clean off dried adhesive from the picture tube. PAINT is used to lock the tabs of the purity/convergence magnet assembly in place (Fig. 2-1). The paint must be removed with the end of a screwdriver before any adjustments are attempted.

1. Inject a Video Signal (RASTER) to the Video input terminal.
2. Let the purity tabs come in line horizontally as is shown in Fig. 2-3. A long tab should be in the same direction as the other short tab.
3. Move the yoke slowly backward.
4. Turn the green cut-off control to maximum and the red and blue cut-off controls to minimum. Then adjust the screen control so that the green band can be seen best. (Fig. 2-4)
5. Rotate the two tabs in the opposite direction with them kept at an angle. Move them in either direction so that the green band is centered on the picture tube.
6. Check the vertical center position by displaying a horizontal line. If incorrect, bring it to the center by rotating the two tabs, kept at an angle, together in either direction. (Fig. 2-5, 2-6)
7. Repeat steps 5 and 6 alternately until the green band and the vertical centre are in line.
8. Move the yoke slowly towards the bell of the tube so that the whole surface of the picture tube is filled with a pure green raster.
9. Turning the red cut-off control to maximum and the green cut-off control to minimum, check for pure red raster.
10. Turning the blue cut-off control to maximum and the green cut-off control to minimum, check for pure blue raster.
11. Secure yoke retaining clamp (do not install wedges at this time).

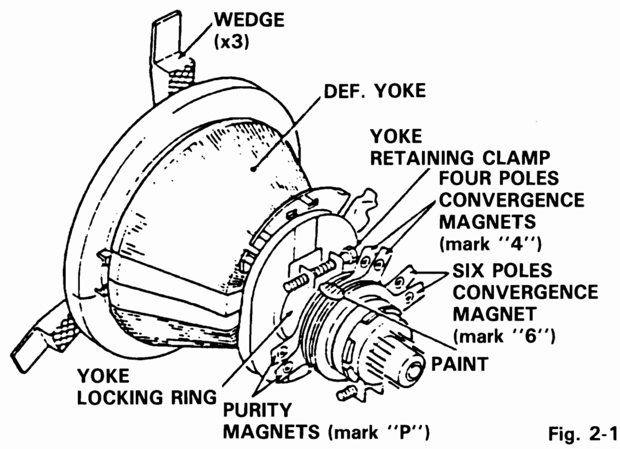
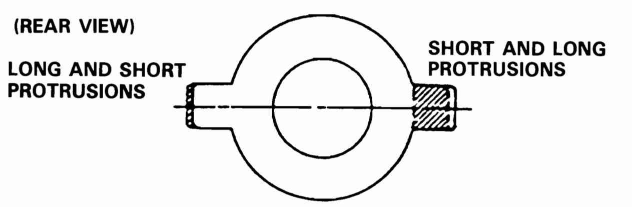
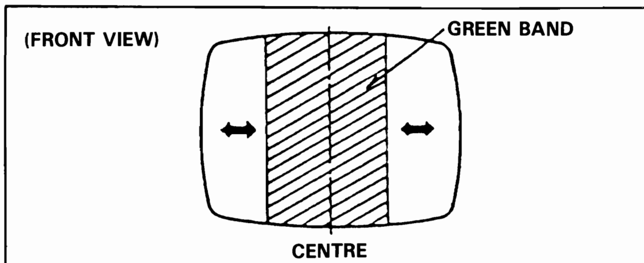


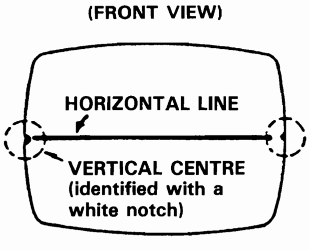
Fig. 2-1



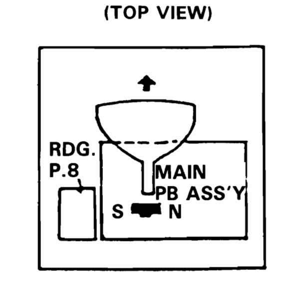
Let the protrusions come in line
Fig. 2-3



Bring the green band to the centre.
Fig. 2-4



Bring the horizontal line nearest to the white notches shown in the dotted circles.
Fig. 2-5



Select the cut-off service switch from N to S, and a horizontal line will appear.
Fig. 2-6

STATIC CONVERGENCE & DYNAMIC CONVERGENCE

Static convergence is achieved by four magnets located on the neck, nearest the base of the picture tube. The front pair of magnetic rings (closest to the purity tabs) are adjusted to converge the red and blue crosshatch lines.

The rear pair of convergence rings (closest to the base of the picture tube) are adjusted to converge the magenta (Red/Blue) and green crosshatch lines.

Dynamic convergence is achieved by tilting the deflection yoke, Up-Down and Left-Right.

1. Inject Video Signal (CROSSHATCH) to the Video input terminal and adjust BRIGHTNESS and CONTRAST control for distinct pattern.
2. Adjust the convergence around the edges of the picture tube tilting the yoke, up-down and left-right. Temporarily install one wedge at the top of the yoke. (Fig. 2-9, 2-10, 2-11)
3. Rotate the front pair of tabs as a unit to minimize the separation of the red and blue lines around the center of the screen. To adjust the convergence of red and blue, vary the angle between the tabs.
4. Rotate the rear pair of tabs as a unit to minimize the separation of the magenta and green lines. (Fig. 2-8)
5. Adjust the spacing of the rear tabs to converge the magenta and green lines.
6. Apply paint to fix 6 magnets.
7. Remove the wedge installed temporarily on the yoke.
8. Tilting the angle of the yoke up, down and sideways, adjust the yoke so as to obtain the circumference convergence. (Fig. 2-10, 2-11)
9. Insert three wedges to the positions as shown in Fig. 2-12 to obtain the best circumference convergence.
10. Secure wedges in position with the adhesive backing provided or use a non-conductive silicon/rubber compound.
11. White balance adjustment (Black & White tracking) can now be performed.

WHITE BALANCE ADJUSTMENT
(Black and White Tracking)

1. Inject a Video Signal (RASTER) to the Video input terminal.
2. Set the red and green drive controls for their mechanical center.
3. Turn the red, green and blue cut off controls and the screen control fully counterclockwise.
4. Change the service switch as shown in Fig. 2-6, to the "S" position.
5. Turn screen control slowly clockwise until a very faint horizontal line appears.
6. Turn the cut off control of the color which has appeared first, clockwise by about 10° and then adjust the screen control again so that the color may shine faintly.
7. Turn the other color cut off controls slowly clockwise until a reasonable white line appears.
8. Return the service switch to normal (N) position. (Fig. 2-6)
9. Adjust the red and green drive controls for best white highlights.

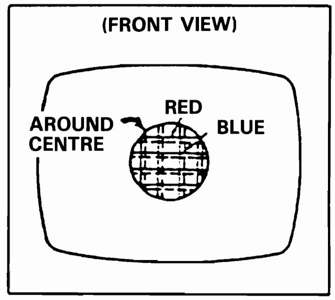


Fig. 2-7

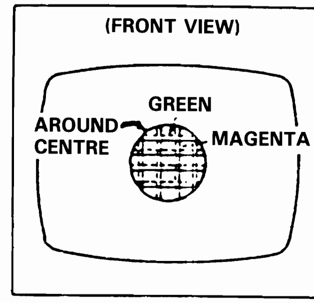


Fig. 2-8

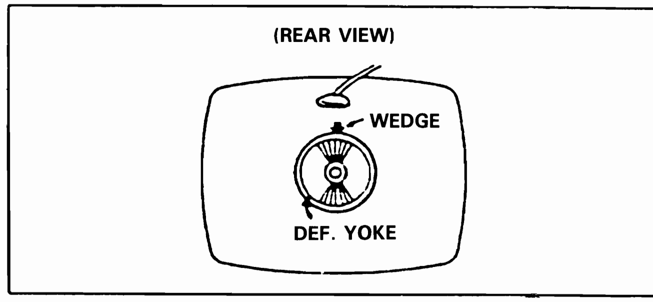
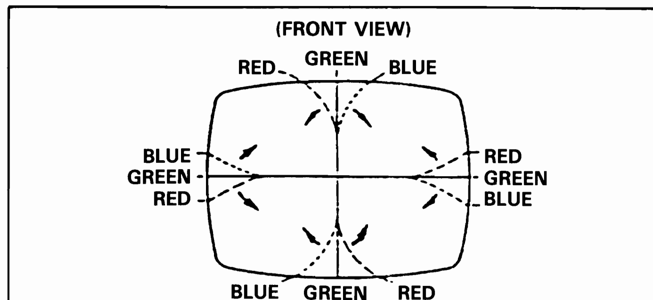
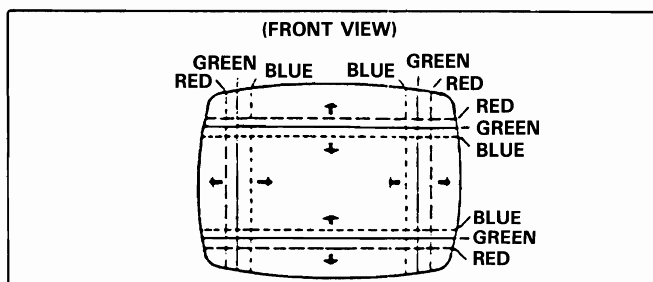


Fig. 2-9



Tilting the yoke upward will move the lines as shown with the arrows.

Fig. 2-10



Tilting the yoke upward will move the lines as shown with the arrows.

Fig. 2-11

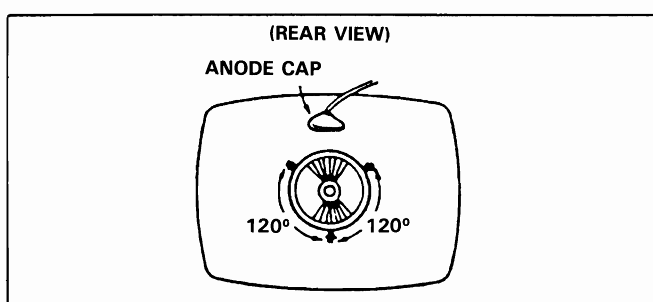


Fig. 2-12

NOTE: 1702 locations in (   ).

B_1 VOLTAGE — Inject a video signal

1701 (110V)

Regulate VR, R109, for B_1 adjustment so that Dc voltage between TP-91 and earth is 110 volts.

1702 (125V.)

Confirm that the voltage at TP-94 and IC901 pin 4 is 125 volts.

NOTE: Meter should be periodically calibrated at 20K ohms/volt.

FOCUS

Adjust the FOCUS control for best overall definition and picture detail at normal brightness and contrast.

VERTICAL POSITION

Adjust the V. center VR R428 (R429) to the optimum vertical picture position.

VERTICAL HEIGHT AND LINEARITY

1. Display a pattern which allows easy confirmation of symmetry (such as a circle or crosshatch).
2. Reduce the vertical size with the V. HEIGHT VR.
3. Adjust the vertical linearity with the V. LIN. VR.
4. Readjust the vertical height, so that the picture extends to normal size.

HORIZONTAL WIDTH

Adjust H. WIDTH control coil L503 (L522) by turning it with a hexagonal adjusting bar only if RIGHT and LEFT sides of picture can't be seen.

HORIZONTAL OSCILLATOR

1. Set the H. FREQ. VR to the mechanical center position.
2. Connect a jumper clip between TP-33A and TP-33B.
3. While rotating the H. FREQ. VR, R504, keep the picture stationary or slowly moving.
4. Remove the jumper wire.
5. Make sure that the set maintains horizontal sync, when signals are switched.

SUB TINT AND SUB COLOR

1. Display a picture and set the tint and color VRs on the control panel to the central click position.
2. Adjust the sub tint VR, R305 and sub color VR, R303 for the optimum display.

SUB CONTRAST AND SUB BRIGHT

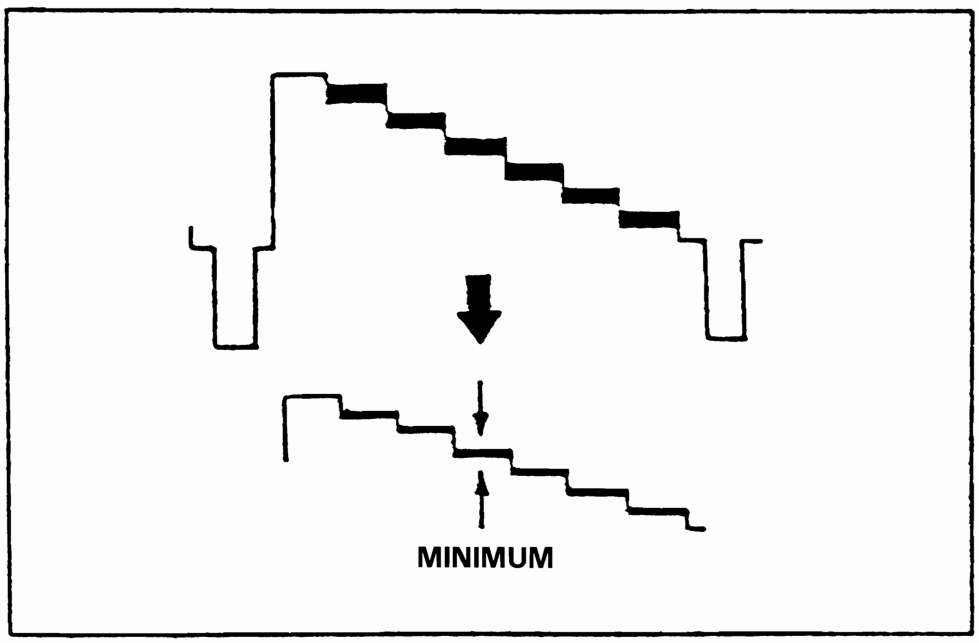
1. Display a picture and set the contrast and bright VRs on the control panel to the center click positions.
2. Adjust the sub contrast VR, R209 and sub bright VR, R22 (R863) for optimum display.

COLOR SYNC

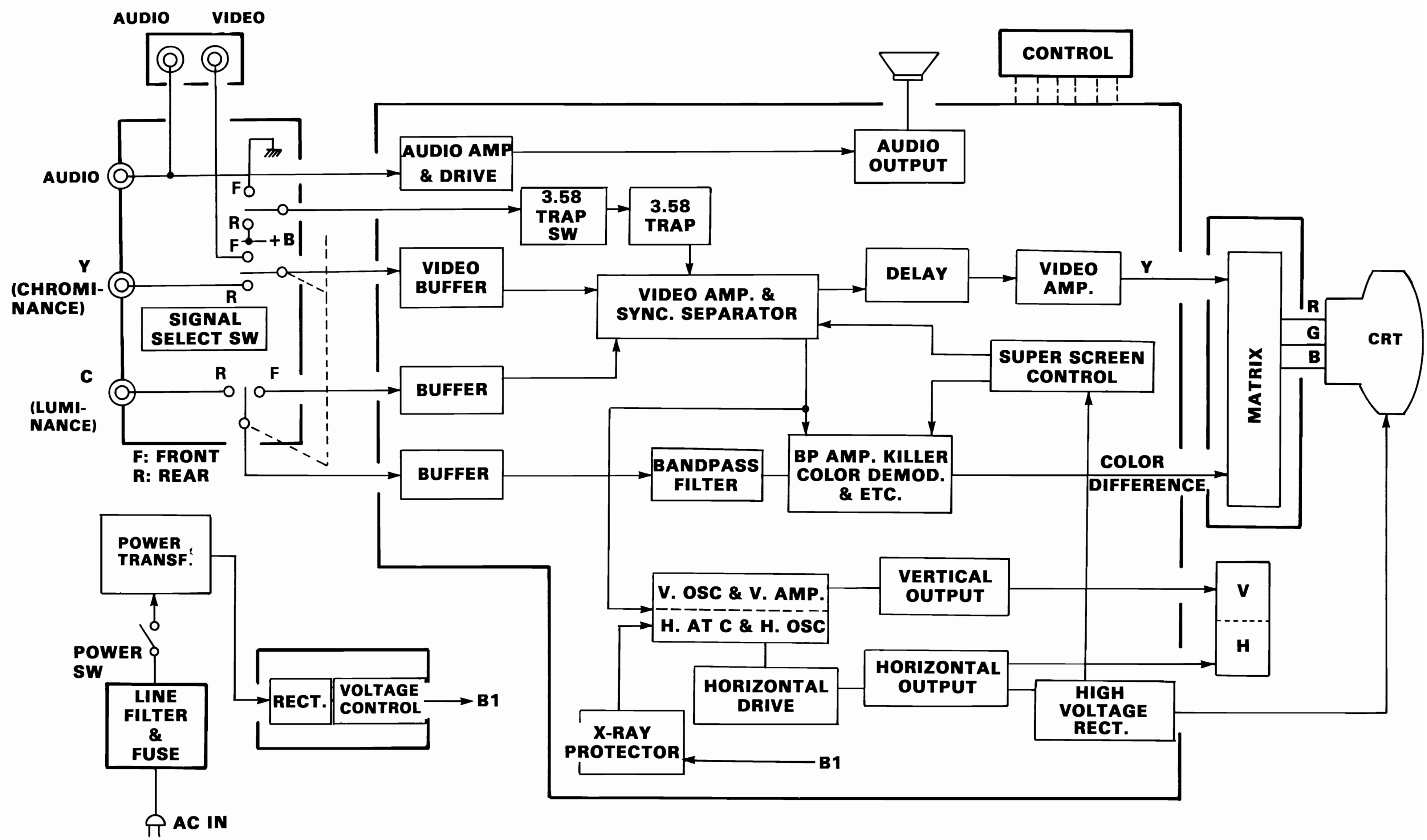
1. Display a color video signal.
2. Connect jumper clips between TP-40 and earth (TP-E) and between TP-51 and IC301 pin 15 (TP-51B).
3. Use a non-metallic screwdriver to turn trimmer capacitor C308.
4. Adjust so that the rolling color stripes become thick and the rolling slows or stops.
5. Remove jumper clips.
6. Confirm that color sync is not disrupted when signals are switched.

3.58 MHz TRAP

1. Receive a Video Signal into the Video input terminal.
2. Connect oscilloscope probe to DL201 (Delay Line) output side.
3. Turn the core of T201 so that that 3.58MHz signal is minimized.



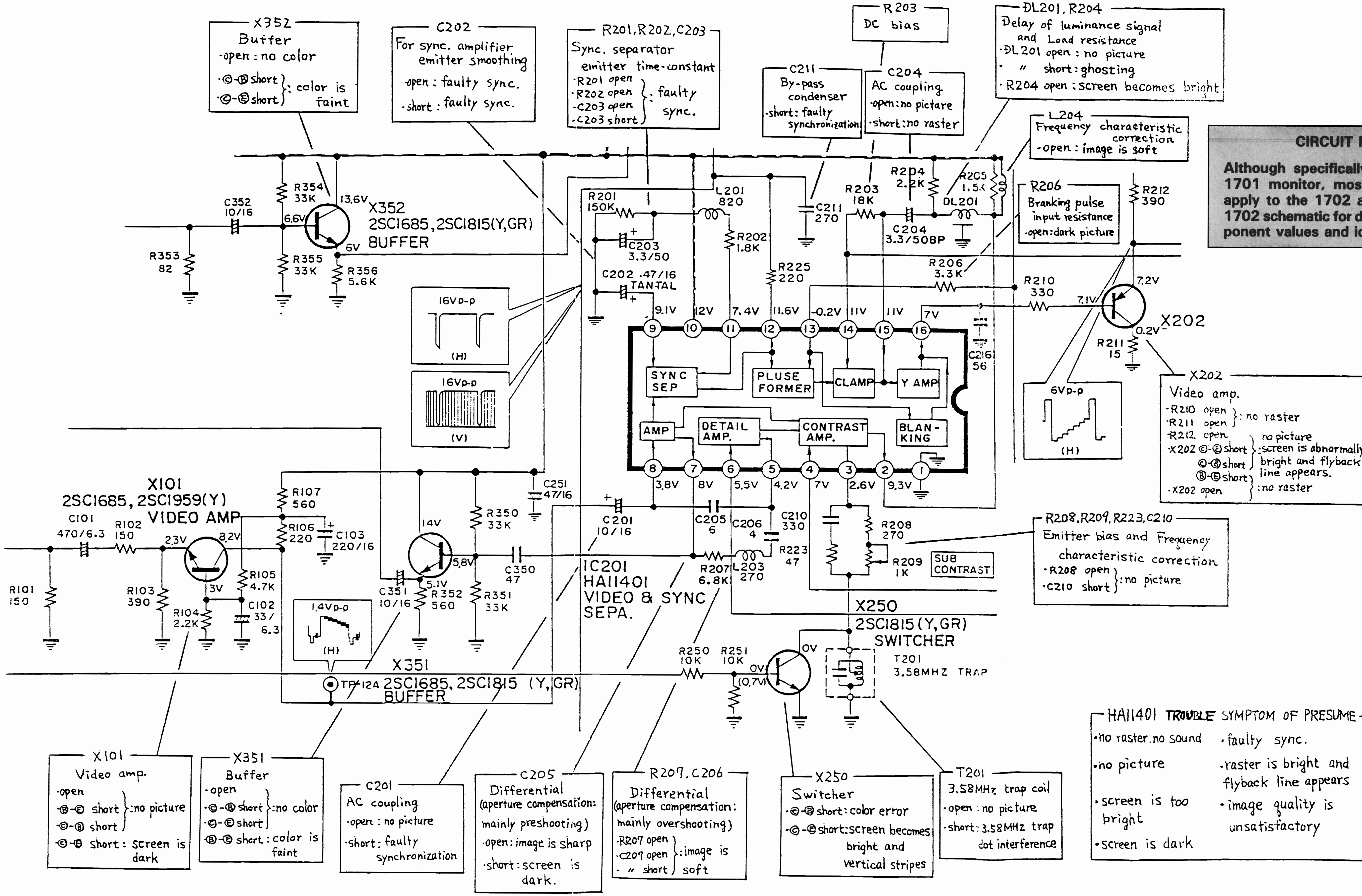
1701/1702 BLOCK DIAGRAM

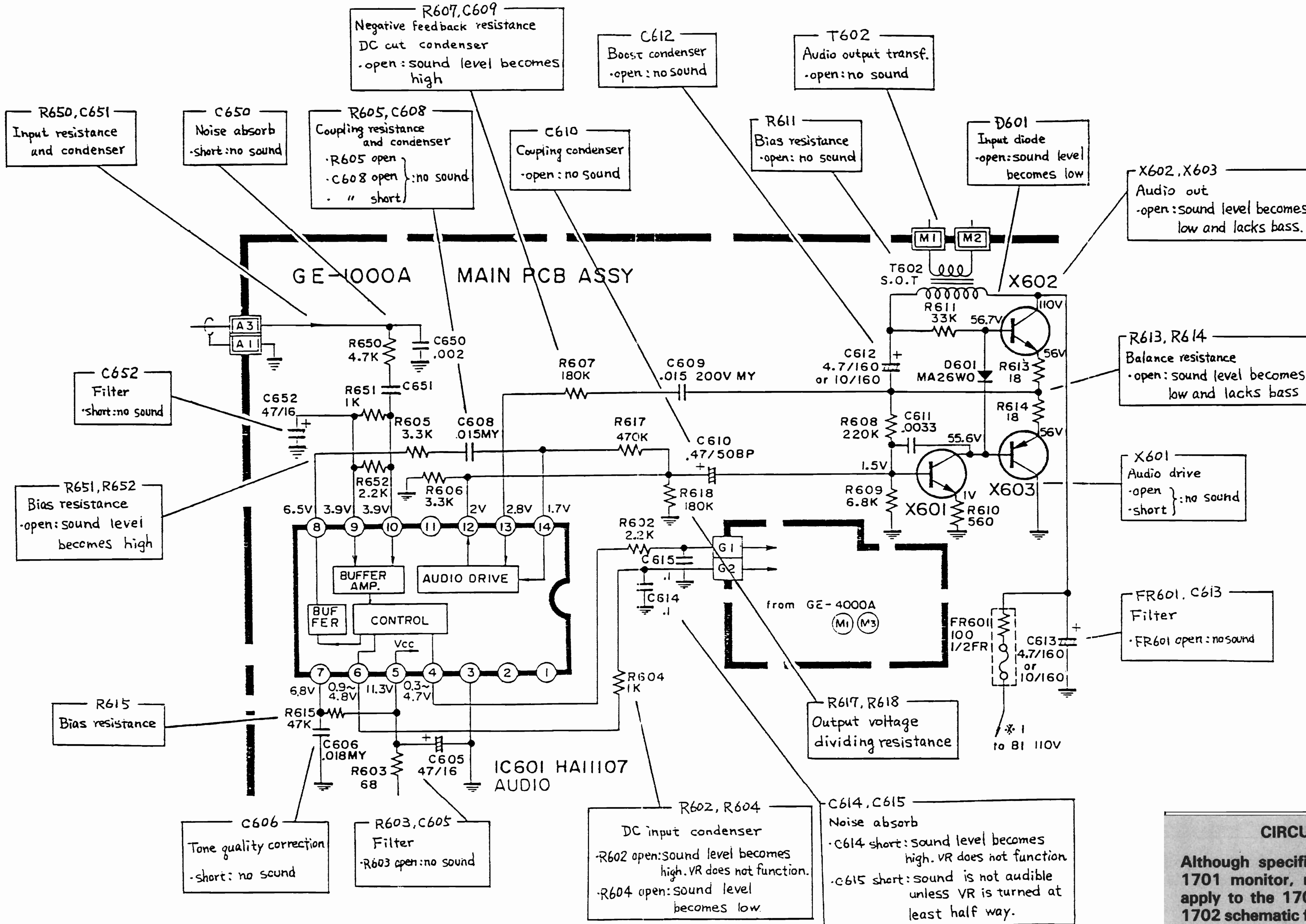


VIDEO CIRCUIT

CIRCUIT NOTES

Although specifically written on the 1701 monitor, most circuit theories apply to the 1702 also. Refer to the 1702 schematic for differences in component values and identification.

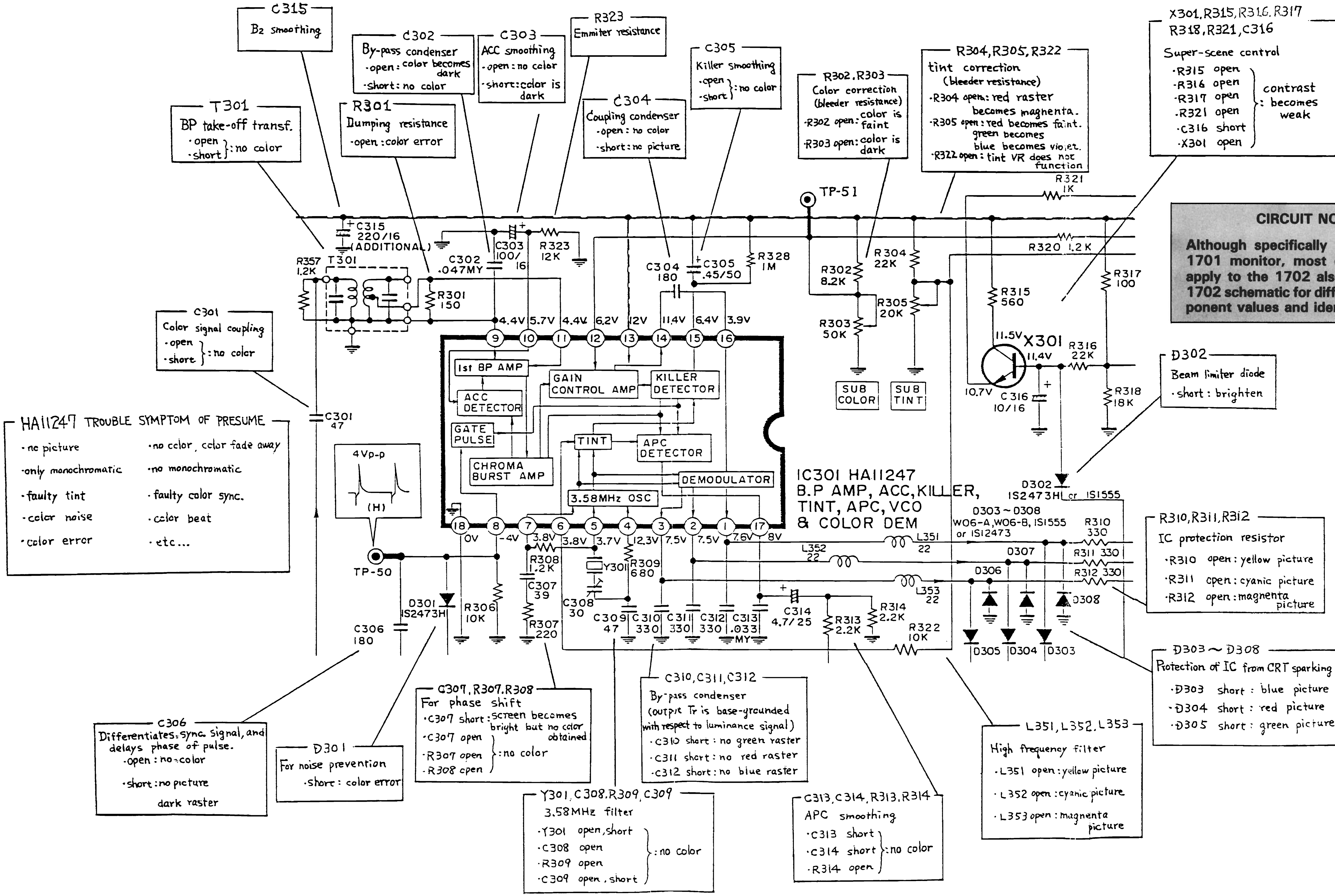




CIRCUIT NOTES

Although specifically written on the 1701 monitor, most circuit theories apply to the 1702 also. Refer to the 1702 schematic for differences in component values and identification.

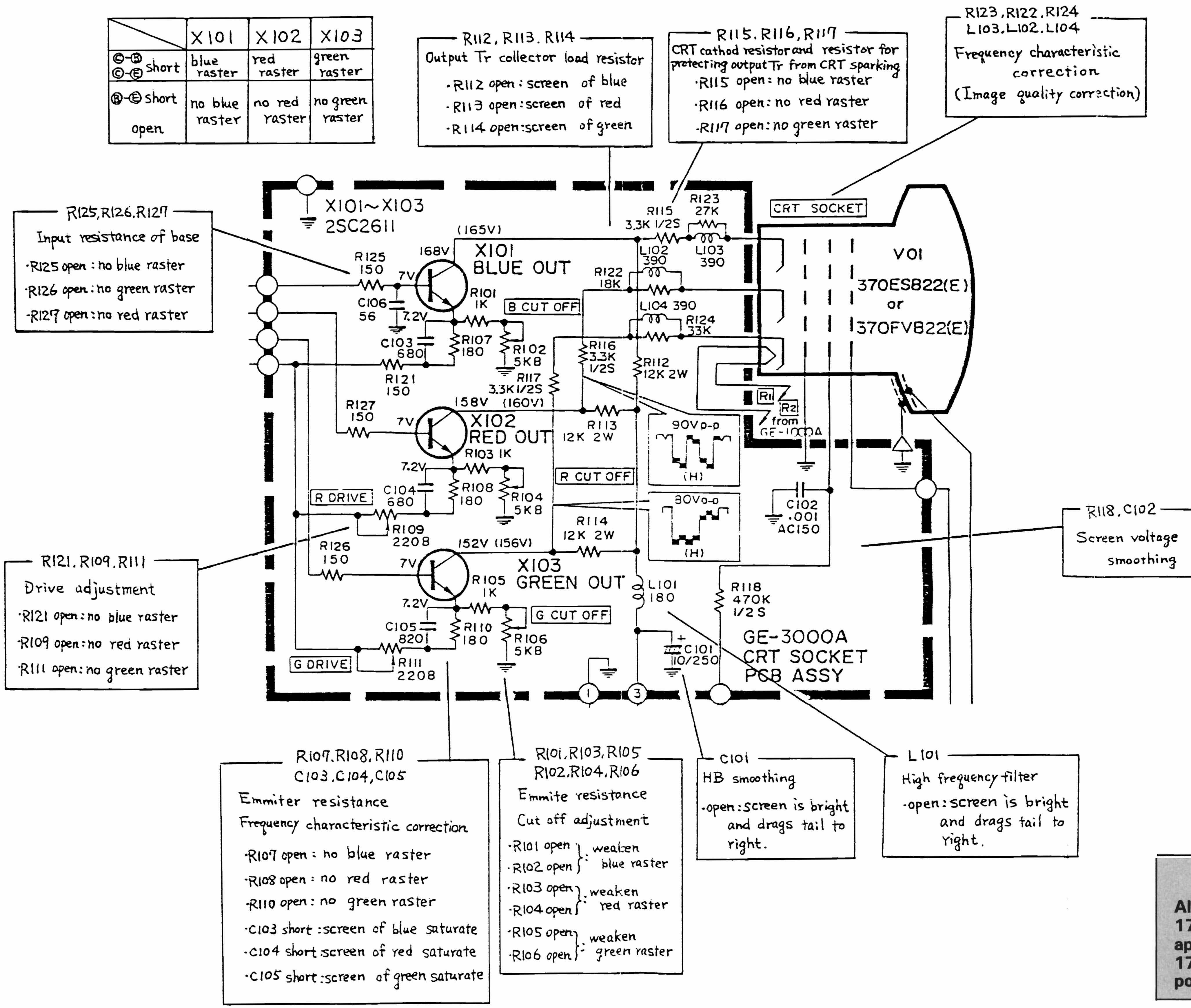
COLOR DEM. CIRCUIT



CIRCUIT NOTES

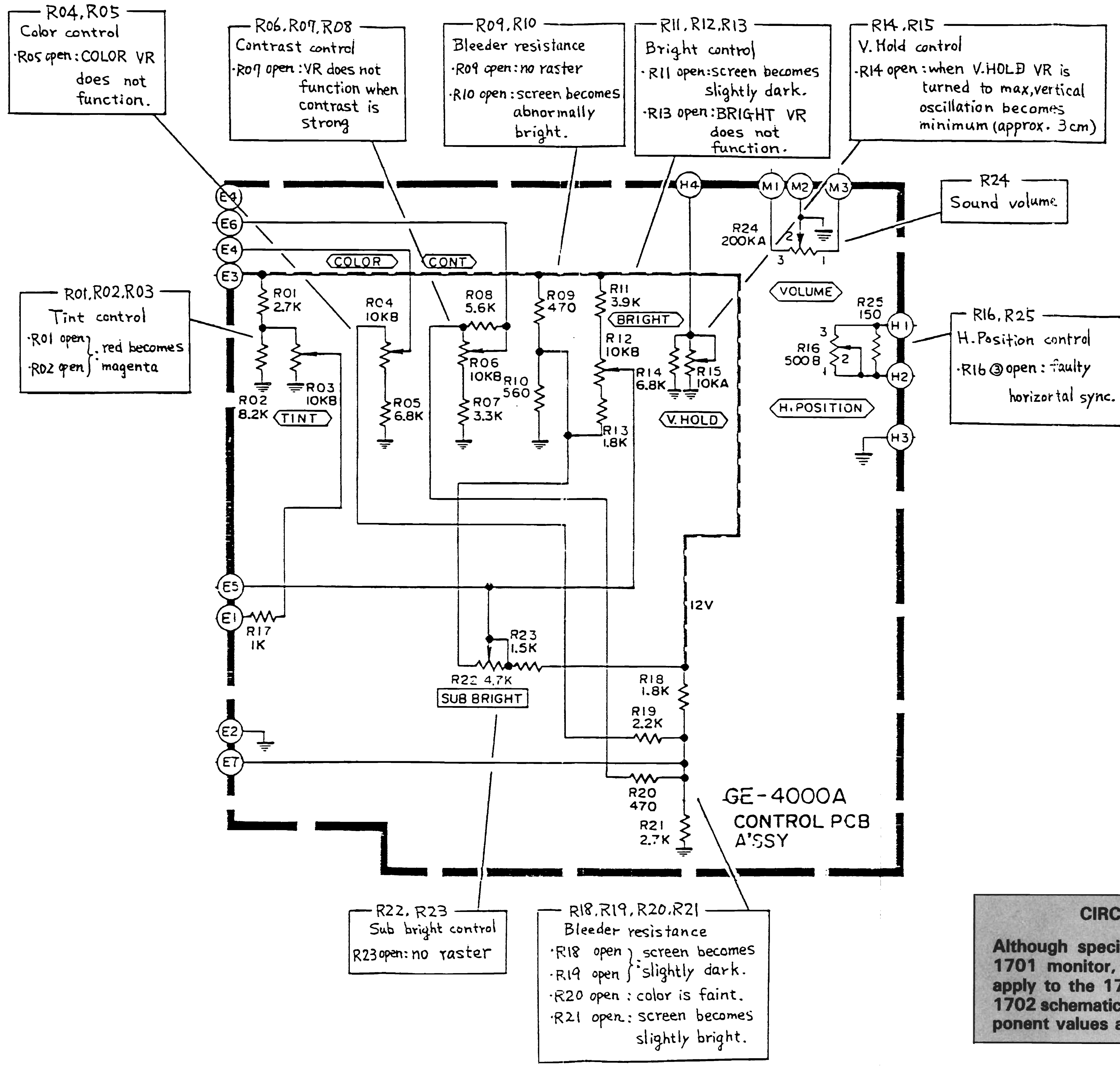
Although specifically written on the 1701 monitor, most circuit theories apply to the 1702 also. Refer to the 1702 schematic for differences in component values and identification.

	X101	X102	X103
Ⓒ-Ⓑ short Ⓒ-Ⓔ short	blue raster	red raster	green raster
Ⓑ-Ⓔ short open	no blue raster	no red raster	no green raster



CIRCUIT NOTES

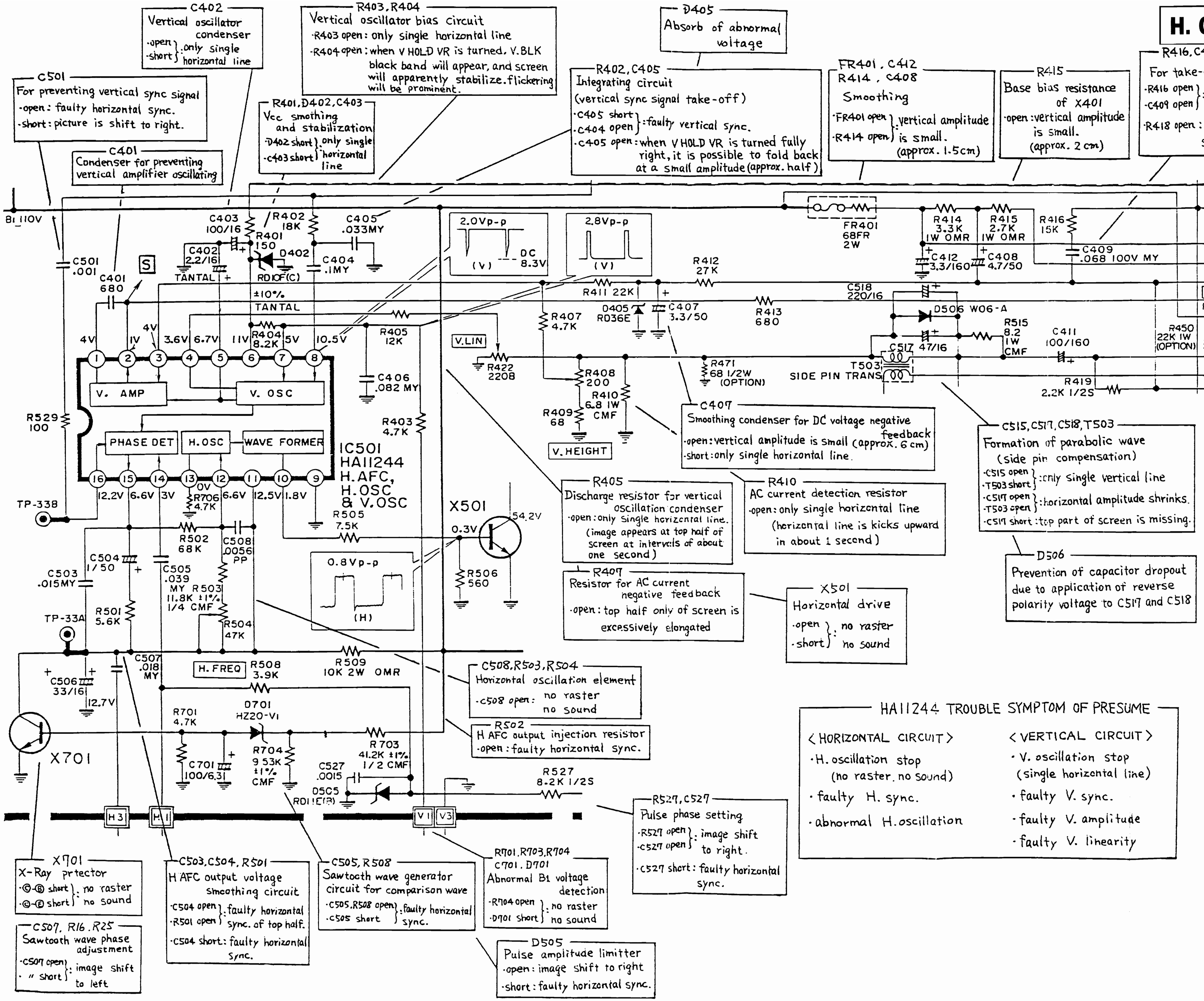
Although specifically written on the 1701 monitor, most circuit theories apply to the 1702 also. Refer to the 1702 schematic for differences in component values and identification.



CIRCUIT NOTES

Although specifically written on the 1701 monitor, most circuit theories apply to the 1702 also. Refer to the 1702 schematic for differences in component values and identification.

H. OSC, V. OSC & V. OUT CIRCUIT

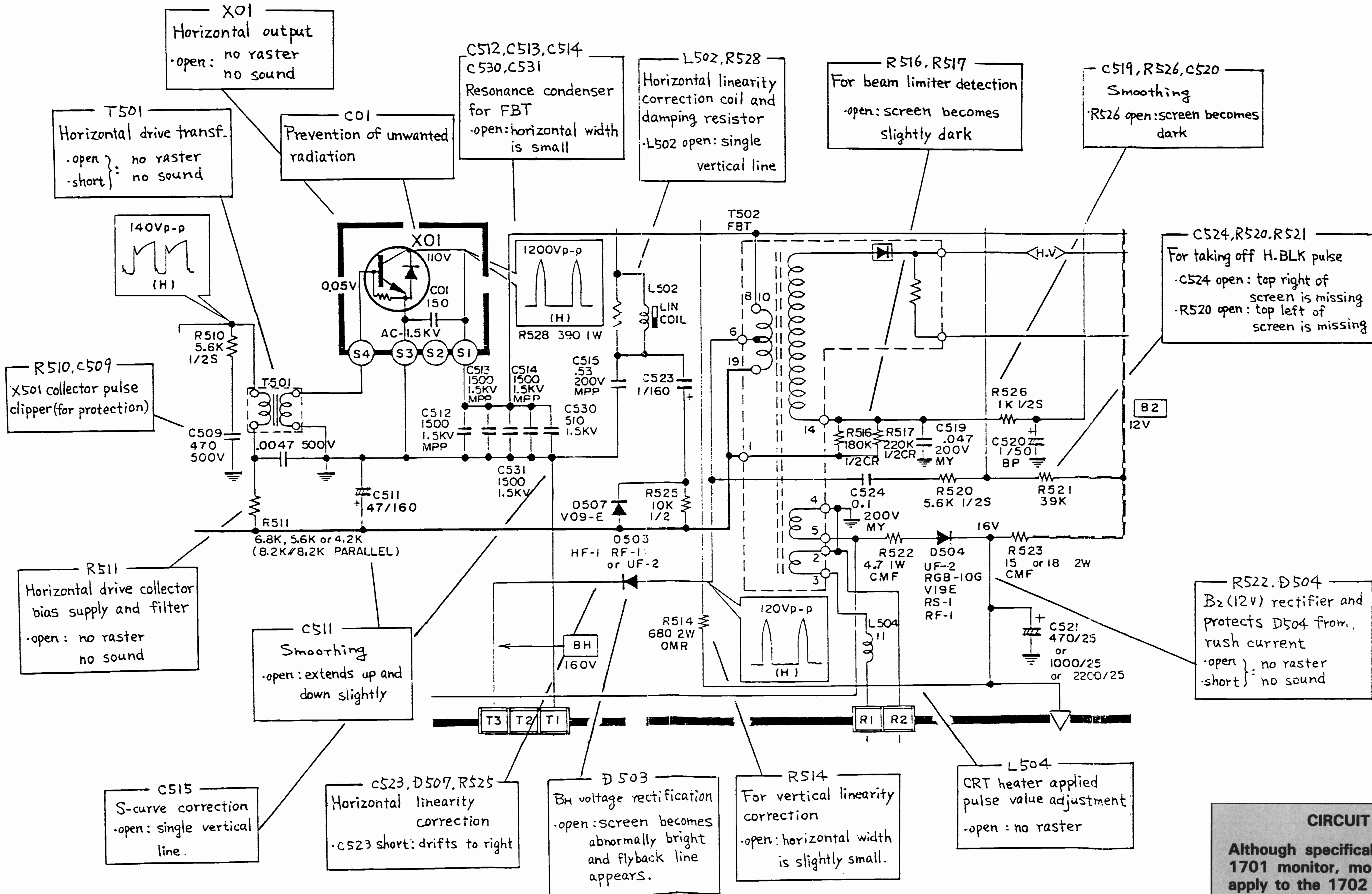


HA11244 TROUBLE SYMPTOM OF PRESUME

<HORIZONTAL CIRCUIT>	<VERTICAL CIRCUIT>
·H. oscillation stop (no raster, no sound)	·V. oscillation stop (single horizontal line)
·faulty H. sync.	·faulty V. sync.
·abnormal H. oscillation	·faulty V. amplitude
	·faulty V. linearity

CIRCUIT NOTES

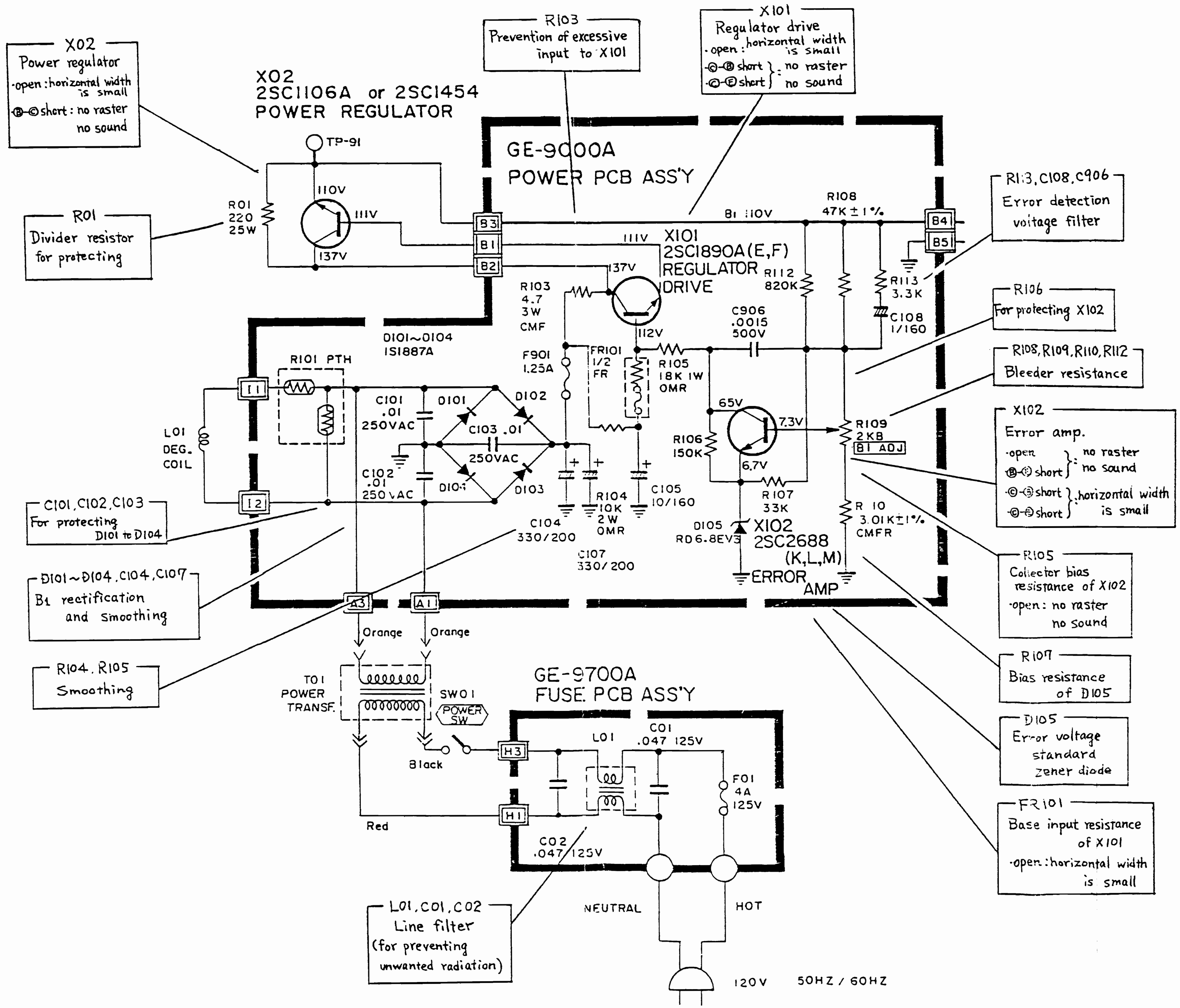
Although specifically written on the 1701 monitor, most circuit theories apply to the 1702 also. Refer to the 1702 schematic for differences in component values and identification.



CIRCUIT NOTES

Although specifically written on the 1701 monitor, most circuit theories apply to the 1702 also. Refer to the 1702 schematic for differences in component values and identification.

POWER CIRCUIT



CIRCUIT NOTES

Although specifically written on the 1701 monitor, most circuit theories apply to the 1702 also. Refer to the 1702 schematic for differences in component values and identification.

TROUBLESHOOTING GUIDE

No raster, no sound (B_1 is normal)

NOTE: 1702 locations in (   ).

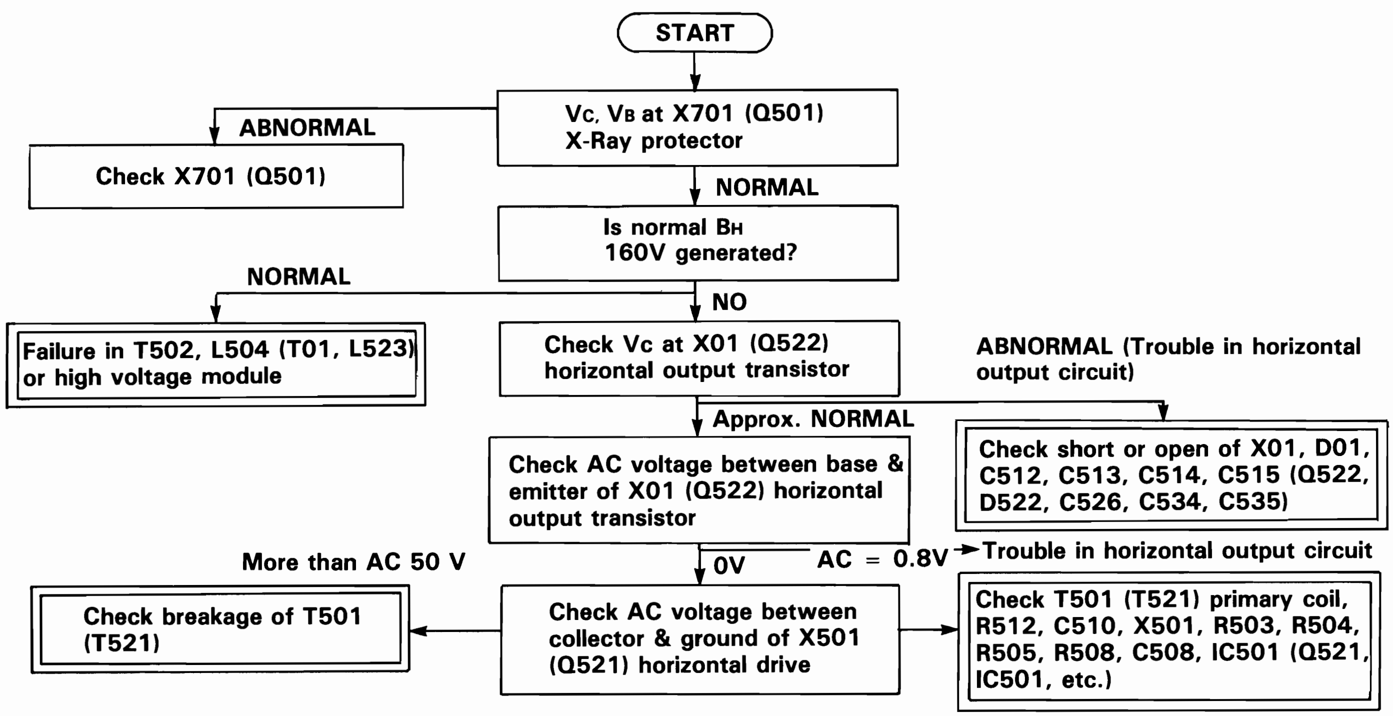
[Cause] Horizontal deflection circuit

Problems in the horizontal deflection circuit hinder generation of high focusing voltage, B_H 160V and B2 12V, resulting in no raster, no sound.

1. As long as normal B_H 160V is generated, the horizontal output circuit properly operates, producing pulses during the flyback period of the saw-tooth wave current passing through the horizontal deflection coil. If a problem is found with normal B_H voltage, the problem area should be the secondary coil of the flyback transformer.

2. When the AC voltage between base and emitter of the horizontal output transistor X01 (Q522) is about 0.8V, it is supplied with input pulses. The problem is therefore in the horizontal output circuit. When, however, X01 (Q522) is shorted, this AC voltage is not indicated even if there are input pulses at X01 (Q522).

3. AC voltage is measured between the collector and ground of X501 (Q521) horizontal drive as shown. When the specified voltage is shown on the meter, the horizontal output circuit is the problem; while, when there is no voltage indication, the trouble is in some element(s) preceding X501 (Q521). Check if those transistors and ICs are damaged using a voltage measurement.



No raster, no sound (B_1 is abnormal)

NOTE

1702 locations in (   ). The regulator PCB assembly used in 1702 models differs from the 1701 power PCB assembly. The B_1 voltage circuits should be checked beginning with IC901.

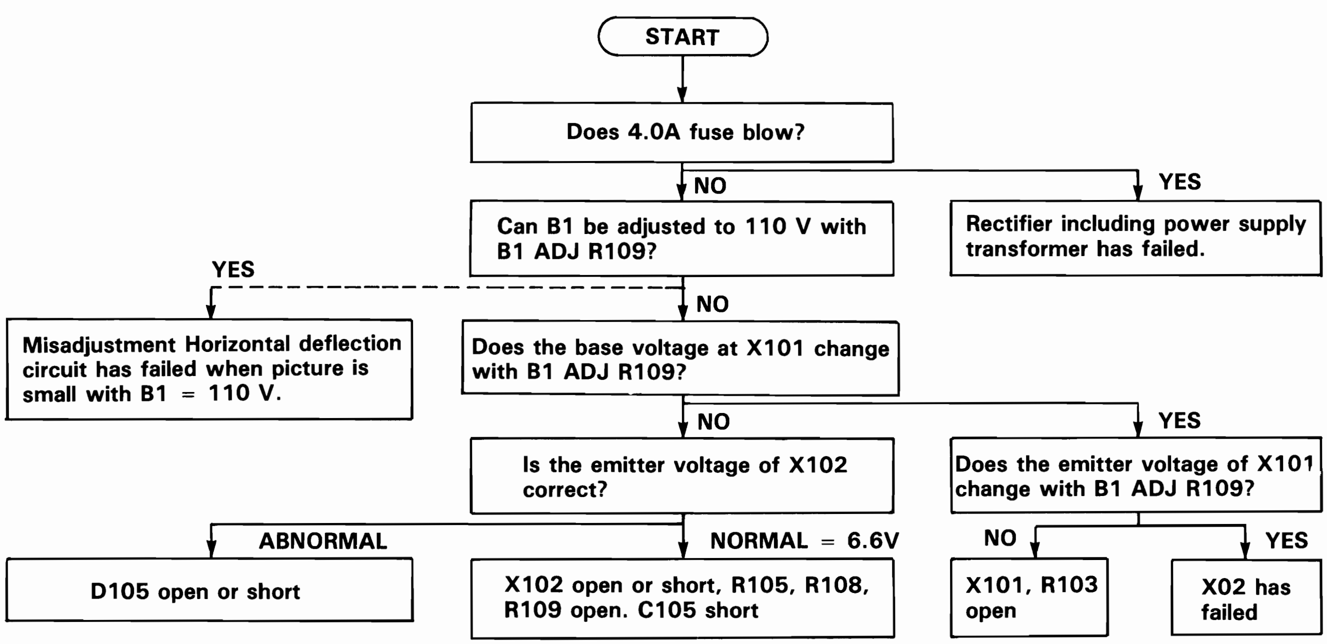
[Cause]

Abnormal B_1 voltage indicates trouble in the power supply circuit. When B_1 voltage is not only low but also abnormally high, X701 (Q501) of the X-ray protector is turned on, setting the collector voltage to 0 V. The horizontal oscillator is then disabled resulting in no raster and no sound.

1. When D105, R105, R108, R109 are open, the base voltage of X101 and X102 rise to increase B1 voltage to more than 130V. This causes the X-ray protector to work, resulting in no raster.

2. If the base voltage drops as when R103 is open or C105 is shorted, the B_1 voltage is reduced to less than 40 V. This will mostly result in no raster, no sound.

3. When the B_1 voltage drops to about 70 V, because R910 is open and D105 is shorted, the screen becomes dark and the raster size is reduced because of insufficient horizontal and vertical amplitude.



No picture (no raster) with normal sound

NOTE: 1702 locations are in ( ).

[Cause] Malfunction of the video amplifier IC201, X202 (IC201, Q201)

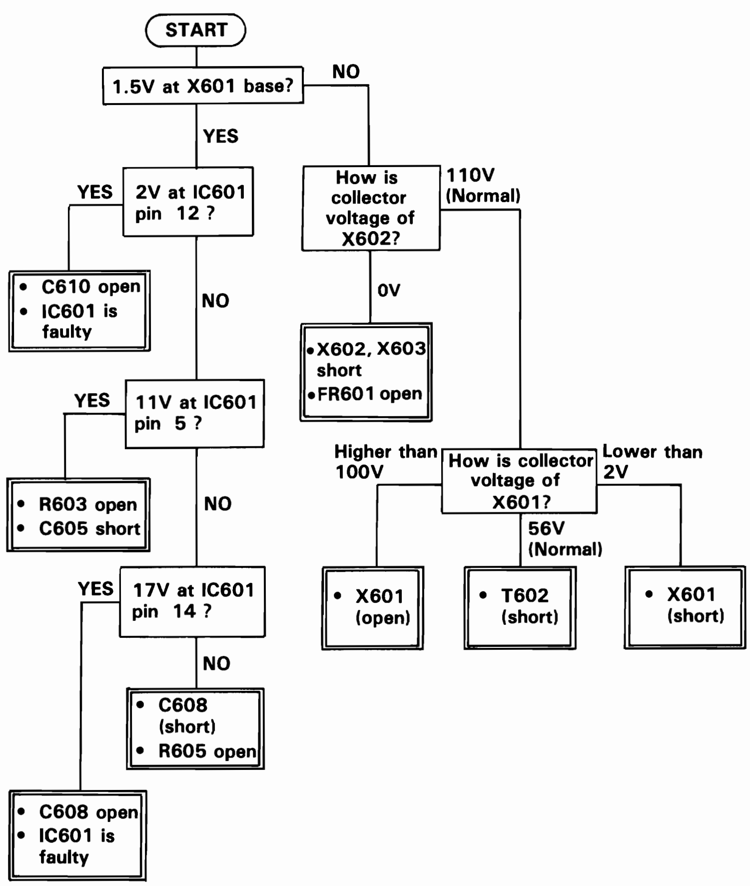
The video signal and the audio signal output are supplied respectively to the video amplifier IC201 and the audio circuit IC601. Sound is had but no picture; therefore, the faulty part is IC201 and its external elements. Since pin 16 of the IC201 to the cathode of CRT is connected by a DC-coupled amplifier, a fault raising the emitter voltage of X202 (Q201) will cause the three initial ouptut transistors to cut off, resulting in no raster.

Check also the screen grid circuit for igniting the CRT heater and the high voltage module.

No sound (with normal picture)

NOTE: 1701 — Flowchart
1702 — Audio circuit has been reduced to IC601.

[Cause] Trouble in the audio circuit IC601, X601, X603 or X604 are faulty.



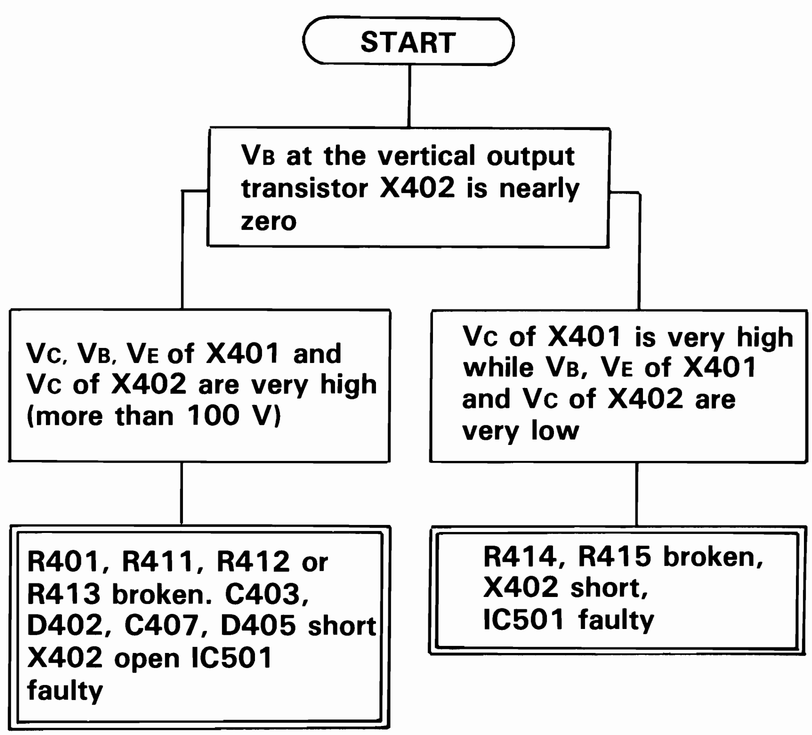
Only single horizontal line, normal sound

> **NOTE: 1701** — First check if FR401 is broken or not. If this is broken, the trouble is due to short of X401 or break of D401.
> **1702** — Circuits in 1702 monitor differ but the operation remains the same. Check vertical controls/deflection circuits.

[Cause] Malfunction of the vertical deflection circuit. When the vertical deflection circuit is faulty, saw-tooth current is not applied to the vertical deflection coil, resulting in a single horizontal line. During troubleshooting, reduce brightness contrast to prevent an ion spot on the CRT.

1. R401 broken, C403, D402, C413 short: B2 12V is not supplied, disabling IC501.
2. R411, R412 broken, C407 short: the voltage at IC501 pin 3 is set to zero disabling the V-amplifier and the voltage at pin 2 is set to zero to turn off X402.
3. R414, R415 are broken: V_B of X401 is zero disabling X401 and X402.
4. Also check if C402 is short or open.
5. Too high V_B of X402 is because of C401 short or failure in IC501 or X402.

Note: When the voltage generator fails to supply B2 12V to the secondary coil of the flyback transformer of the horizontal output circuit due to malfunction, a single horizontal line and no sound will result.



[Faulty parts and problems other than described]

X401 open D401 short C408 short	Vertical amplitude small (6 - 8 cm) Picture appears only on the lower half of the screen
R403 faulty	A single thick (ca. 5 mm) horizontal line
R404 faulty	When turning V. HOLD, a black belt (V blanking signal) appears at the center of screen. The whole screen is dark and flickers.
R405 faulty	A single horizontal line. A picture flashing at about 1 second interval appears on the upper half of the screen.
R407 faulty	A picture of about 4 cm at the center of the screen. About 25 irregular lines appear on the upper half of the screen.
R408 and R409 faulty	Vertical amplitude small (about 15 cm)
R410 faulty	Vertical amplitude small (about 2 cm). Picture goes slightly up and down and flickers.
R416 faulty C409 open	Vertical flyback line appears.
R419 faulty	Small number of irregular lines

Improper horizontal or vertical synchronization

NOTE: 1701 and 1702 locations are the same.

[Cause]

1) Defective horizontal and vertical sync:

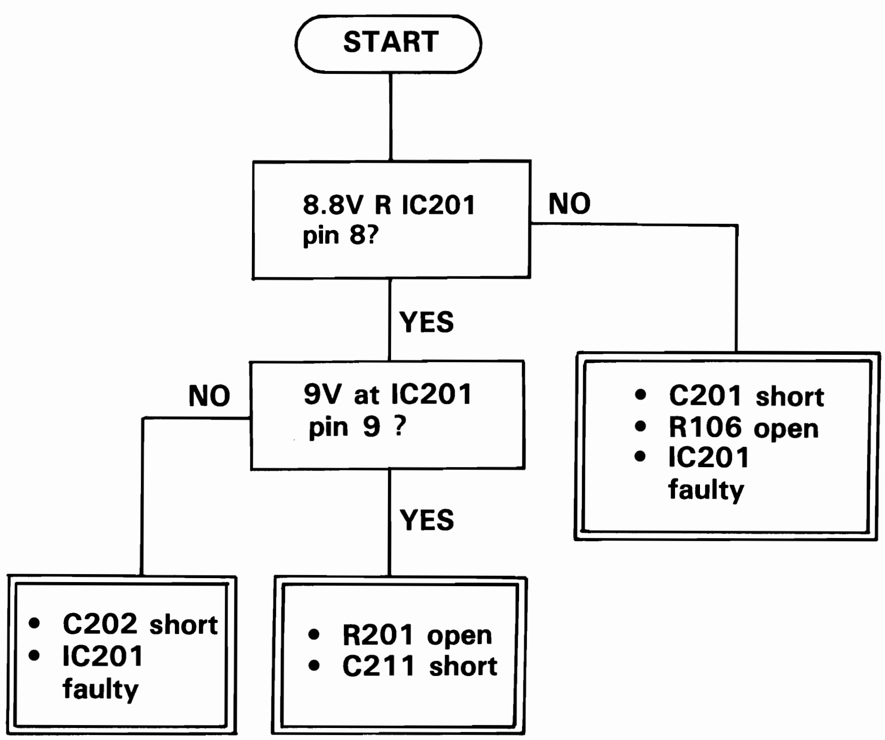
The sync separator and amplifier consists of an IC(IC201). The main cause of failure is often a failure of the IC itself. It is also necessary to be careful of a possible failure of the external components. Because the change of voltage at each pin of the IC is extremely small, it is very difficult to discover a failed element by measuring voltage.

2) Defective horizontal sync:

This is due to a failure of IC501 or the horizontal AFC circuit.

3) Defective vertical sync:

This is due to a failure of either the separator and amplifier for the vertical synchronous signal, or the vertical oscillator IC501 and its peripheral elements.



Monitor parts may be secured locally. JVC part numbers have been provided for your convenience. ONLY Commodore part numbers (C314-xxx-xx) will be available from Commodore at this time.

1701 CHASSIS PARTS

LOCATION	DESCRIPTION	JVC PART #	COM PART #
DY01	Deflection Yoke	* CJZ6134-00A	
J01	Pin Jack Vid In	C39Z27-224	
J02	Pin Jack Aud In	C39Z27-223	
L21	Deg. Coil	* A39477-T	
R05	Nonflammable Res. 220 ohm, 25W, ±10%	* QRF258K-221	
S01	Power Switch	* CEX40097-002	
SP01	Speaker	EAS-10P225S	
T01	Power Transformer	* CE30074-B0A	
T502	HV Module	* CJ26107-22A	
V01	Picture Tube	* 370FVB22(E) Sub:	
		* 370ESB22(E)	
X01	Transistor	* 2SD869 Sub:	
		* 2SD898	
X02	Regulator	* 2SC1106A	

*SAFETY COMPONENTS — Use EXACT replacement ONLY.

1701 CABINET PARTS

LOCATION	DESCRIPTION	JVC PART #	COM PART #
1701/1702	Front Cabinet		C 314900-01
1701/1702	Front Cntrl Panel Door		C 314901-01
1701/1702	Power Button		C 314902-01
1701	Front Name Plate		C 314903-01
1701/1702	RT Side Handle		C 314904-01
1701/1702	LT Side Handle		C 314905-01
1701/1702	Rear Cabinet		C 314906-01
1701/1702	Rear A/V Terminal Assy		C 314907-01
1701/1702	Top Cabinet Panel		C 314908-01
1701/1702	Replacement AC Cord	* QMP1460-244K	* C 314909-01

*SAFETY COMPONENTS — Use EXACT replacement ONLY.

Monitor parts may be secured locally. JVC part numbers have been provided for your convenience. ONLY Commodore part numbers (C314-xxx-xx) will be available from Commodore at this time.

MAIN PCB ASSEMBLY #GE-1000A

LOCATION	DESCRIPTION	JVC PART #	COM PART #
INTEGRATED CIRCUITS			
IC1201		HA11401	
IC1301		HA11247	
IC1501		HA11244	
IC1601		HA11107	
TRANSISTORS			
X1101		2SC1959 (Y)	
X1202		2SA1015 (Y)	
X1250		2SC1815 (Y, GR)	
X1301		2SC1815 (Y, GR)	
X1351		2SC1815 (Y, GR)	
X1352		2SC1815 (Y, GR)	
X1401		2SD401A (K, L)	
X1402		2SD401A (K, L)	
X1501		2SC2371V	
X1601		2SD668A (B, C)	
X1602		2SD668A (C)	
X1603		2SB648A (C)	
X1701		2SC1815 (Y, GR)	
DIODES			
D1201		IS2471V-Y	
D1202		W06B	
D1203		W06B	
D1301		1S2473H-Y	
D1302		1S2473H-Y	
D1401		1S2471V-Y	
D1402	Zener	RD11E (B)-Y	
D1405	Zener	RD36E (B)	
D1503		RH-1	
D1504		V19E	
D1505	Zener	RD11E (B)-Y	
D1506		W06A	
D1507		V09E	
D1508		IS2473H-Y	
D1601		MA26W0 (B)	
D1701	Zener	HZ20-V1	

*SAFETY COMPONENTS — Use EXACT replacement ONLY.

Monitor parts may be secured locally. JVC part numbers have been provided for your convenience. ONLY Commodore part numbers (C314-xxx-xx) will be available from Commodore at this time.

MAIN PCB ASSEMBLY #GE-1000A (Continued)

LOCATION	DESCRIPTION	JVC PART #	COM PART #
RESISTORS			
R1410	Metal Film, 6.8, 1W, ±5%	QRX019J-6R8S	
R1414	Oxide Metal Film, 3.3K, 1W, ±5%	QRG019J-332	
R1415	Oxide Metal Film, 2.7K, 1W, ±5%	QRG019J-272	
R1421	Oxide Metal Film, 6.8K, 2W, ±5%	QRG029-J-682	
R1503	Metal Film, 11.8K, 1/4 W, ±1%	QRV141F-1182	
R1509	Oxide Metal Film, 10K, 2W, ±5%	QRG229J-103	
R1511	Oxide Metal Film, 8.2K, 2W, ±5%	QRG229J-822	
R1512	Oxide Metal Film, 8.2K, 2W, ±5%	QRG229J-822	
R1514	Oxide Metal Film, 680, 2W, ±5%	QRG229J-681	
R1515	Metal Film, 8.2, 1W, ±5%	QRX019J-8R2	
R1522	Metal Film, 4.7, 1W, ±5%	QRX019J-4R7	
R1523	Oxide Metal Film, 18, 2W, ±5%	QRG029J-180	
R1528	Oxide Metal Film, 390, 1W, ±5%	QRG019J-391	
R1532	Zinc, 270, ±10%	ER8-C05DK271	
R1703	Metal Film, 41.2K, 1/2W, ±1%	QRV121F-4122	
T1704	Metal Film, 9.53K, 1/4W, ±1%	QRV141F-9531Y	
VARIABLE RESISTORS			
R1209	1K	QVZ3234-013	
R1303	50K	QVZ3234-054	
R1305	20K	QVZ3234-024	
R1408	220	A76195-221	
R1422	220	A76195-221	
R1428	50K	QVZ3243-254	
R1524	4.7K	A76195-472	
CAPACITORS			
C1202	Tantalium, .47 μF, 35V, ±20%	QEE61VM-474RZ	
C1204	BiPolar Electrolytic, 3.3 μF, 50V, ±20%	QEN61HM-335Z	
C1308	Trimmer Cap		
C1351	BiPolar Electrolytic, 10 μF, 16V, ±20%	QEN61CM-106Z	
C1402	Tantalium, 2.2 μF, 16V, ±10%	QEE61CK-225B	
C1407	Electrolytic, 3.3 μF, 50K, ±10%	QEM41HK-335M	
C1411	Electrolytic, 100 μF, 160V, +30%, −10%	QET52CR-107	
C1412	Electrolytic, 3.3 μF, 160V, +30%, −10%	QET52CR-335	
C1508	Polypropylene, 5600 pF, 50V, ±5%	QFP31HJ-5625	
C1511	Electrolytic, 47 μF, 160V, +30%, −10%	QET52CR-476	
C1512	Metalized Polypropylene, 1500 pF, 1600V, ±5%	QFZ0082-1525	

*SAFETY COMPONENTS — Use EXACT replacement ONLY.

Monitor parts may be secured locally. JVC part numbers have been provided for your convenience. ONLY Commodore part number (C314-xxx-xx) will be available from Commodore at this time.

MAIN PCB ASSEMBLY #GE-1000A (Continued)

LOCATION	DESCRIPTION	JVC PART #	COM PART #
CAPACITORS (Continued)			
C1513	Metalized Polypropylene, 1500 pF, 1600V, ±5%	QFZ0082-1525	
C1514	Metalized Polypropylene, 1500 pF, 1600V, ±5%	QFZ0082-1525	
C1515	Metalized Polypropylene, .53 μF, 200V, ±10%	QFZ0067-5345	
C1520	BiPolar Electrolytic, 1 μF, 50V, ±20%	QEN61HM-1052	
C1522	Metalized Polypropylene, 510 pF, 1600V, ±5%	QFZ0082-5115	
C1523	Electrolyic, 1 μF, 160V, +30%, −10%	QET62CR-105Z	
C1530	Metalized Polypropylene, 510 pF, 1600V, ±5%,	QFZ-0082 511S	
C1531	Metalized Polypropylene, 1500 pF, 1600V, ±5%	QFZ-0082-152S	
C1610	BiPolar Electrolytic, .417 μF, 50V, ±20%	QEN61HM-474Z	
C1612	Electrolytic, 10 μF, 160V, +30%, −10%	QET52CR-106	
C1613	Electroyltic, 10 μF, 160V, +30%, −10%	QET52CR-106	
COILS			
L1201	Peaking 820 μH	A04725-820Z	
L1203	Peaking 270 μH	A04725-270Z	
L1351	Peaking 22 μH	A04725-22Z	
L1352	Peaking 22 μH	A04725-22Z	
L1353	Peaking 22 μH	A04725-22Z	
L1502	Linearity	A39835	
L1503	Width	CJ39503-00A	
L1504	Heater	CJ30030-11	
TRANSFORMER			
T1201	Trap 3.58	A75537-C	
T1301	BP 3.58	CE40191-00A	
T1501	Horizontal Drive	A46022-8M	
T1503	Side Pin	C39084-A	
T1602	SOT	ETA24Z5AY	
OTHER			
DL1201	Delay Line	CE40472-001	
S1201	Lever SW (Service)	CEX40078-001	
Y1301	Crystal	A75746	
FR1401	FR68 ohm, 2W, ±5%	* 2RH021J-680M	
FR1601	FR100, 1/2W, ±5%	* QRH127J-101M	

*SAFETY COMPONENTS — Use EXACT replacement ONLY.

Monitor parts may be secured locally. JVC part numbers have been provided for your convenience. ONLY Commodore part numbers (C314-xxx-xx) will be available from Commodore at this time.

POWER PCB ASSEMBLY #GE-9000A

LOCATION	DESCRIPTION	JVC PART #	COM PART #
TRANSISTORS			
X9101		2SC1890A (E, F)	
X9102		2SC2688 (K, L, M)	
DIODES			
D9101	Silicon	1S1887A	
D9102	Silicon	1S1887A	
D9103	Silicon	1S1887A	
D9104	Silicon	1S1887A	
D9105	Zener	RD6.8EV3-Y	
RESISTORS			
R9103	Metal Film, 4.7, 3W, ±5%	QRX039J-4RZ	
R9104	Oxide Metal Film, 10K, 2W, ±5%	QRG029J-103A	
R9105	Oxide Metal Fim, 18K, 1W, ±5%	QRG019J-183S	
R9108	Metal Film, 47K, 1/2W, ±1%	QRV121F-4702	
R9110	Metal Film, 3.01K, 1/4 W, ±1%	QRV141F-3011Y	
VARIABLE RESISTORS			
R9109	(B_1 ADJ), 2K B	QVZ3234-023	
CAPACITORS			
C9104	Electrolytic, 330 μF, 200V, +30%, −10%	QES720R-337M	
C9105	Electrolytic, 10 μF, 250V, +50%, −10%	QEZ0077-106M	
C9107	Electrolytic, 330 μF, 200V, +30%, −10%	QES720R-337M	
C9108	Electrolytic, 1 μF, 160V, +30%, −10%	QET52CR-105	
OTHER			
F9101	Fuse, 1.25A	* QMF51U1-1R25S	
FR9101	FR 220 ohm, 1/2W, ±5%	* QRH127J-221M	
R9101	Positor	* A75511	

*SAFETY COMPONENTS — Use EXACT replacement ONLY.

Monitor parts may be secured locally. JVC part numbers have been provided for your convenience. ONLY Commodore part numbers (C314-xxx-xx) will be available from Commodore at this time.

CRT SOCKET PCB ASSEMBLY #GE-3000A

LOCATION	DESCRIPTION	JVC PART #	COM PART #
TRANSISTOR			
X3101	Silicon	2SC2611	
X3102	Silicon	2SC2611	
X3103	Silicon	2SC2611	
RESISTORS			
R3112	Oxide Metal Film, 12K, 2W, ±5%	QRG029J-123	
R3113	Oxide Metal Film, 12K, 2W, ±5%	QRG029J-123	
R3114	Oxide Metal Film, 12K, 2W, ±5%	QRG029J-123	
R3115	Composition, 3.3K, 1/2W, ±10%	QRZ0039-332	
R3116	Composition, 4.7K, 1/2W, ±10%	QRZ0039-472	
R3117	Composition, 3.3K, 1/2W, ±10%	QRZ0039-332	
VARIABLE RESISTORS			
R3102	B Cut Off, 5KΩ, B	QVZ3234-053	
R3104	R Cut Off, 5KΩ, B	QVZ3234-053	
R3106	G Cut Off, 5KΩ, B	QVZ3234-053	
R3109	R Drive, 220Ω, B	QVZ3234-022	
R3111	G Drive, 220Ω, B	QVZ3234-022	
CAPACITORS			
C3101	Electrolytic, 10 μF, 250V, +50%, −10%	QEZ0077-106M	
C3102	Ceramic, 1000 pF, 3000V, +100%, −0%	QCZ9017-102M	
COILS			
L3101	Peaking, 180 μH	QQL043K-181	
L3102	Peaking, 390 μH	A04725-390	
L3103	Peaking, 390 μH	A04725-390	
L3104	Peaking, 390 μH	A04725-390	
OTHER			
	CRT Socket	* A75522	

*SAFETY COMPONENTS — Use EXACT replacement ONLY.

Monitor parts may be secured locally. JVC part numbers have been provided for your convenience. ONLY Commodore part numbers (C314-xxx-xx) will be available from Commodore at this time.

CONTROL PCB ASSEMBLY #GE-4000A

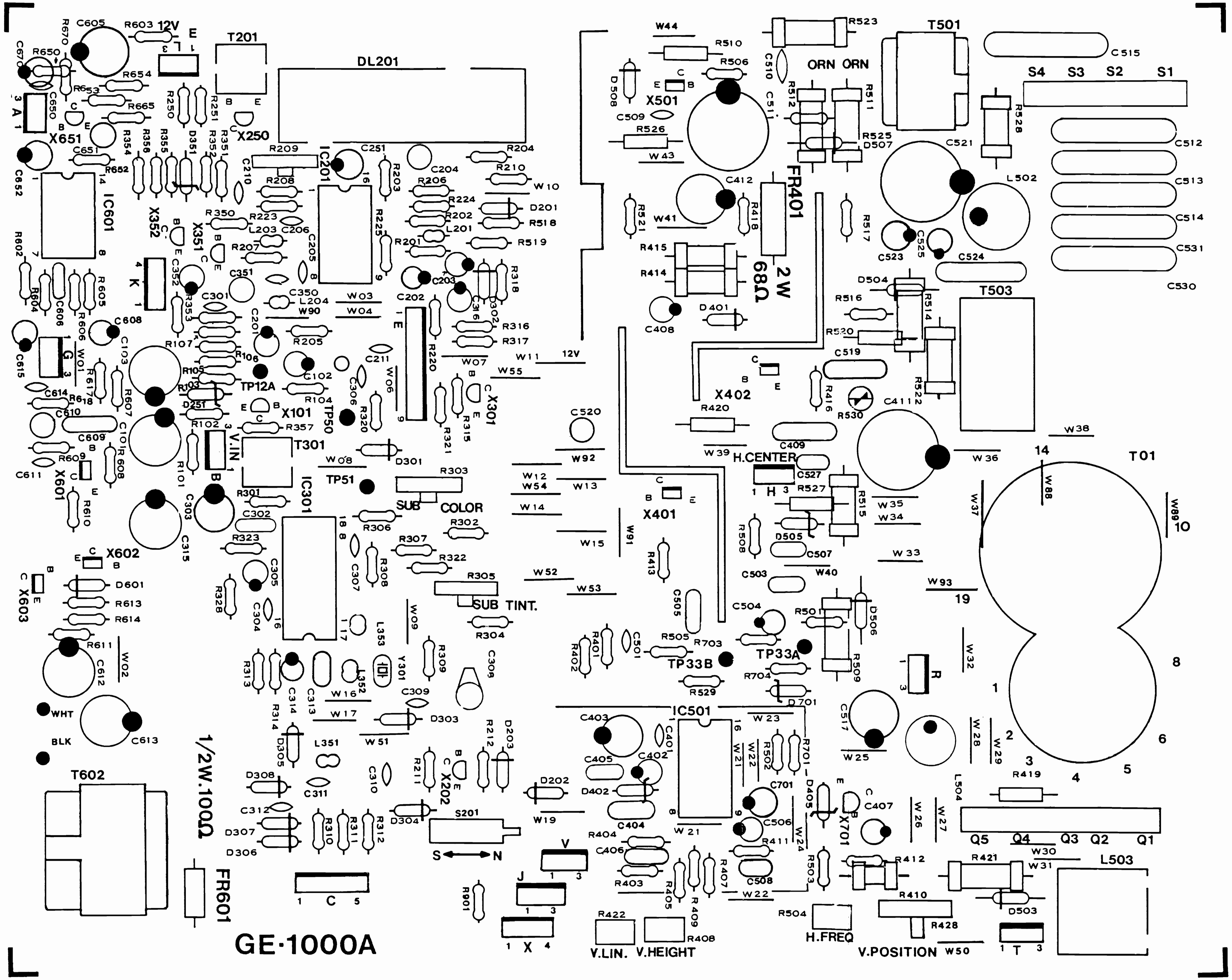
LOCATION	DESCRIPTION	JVC PART #	COM PART #
VARIABLE RESISTORS			
R4003	Tint, 10K	CEX40206-B14	
R4004	Color, 10K	CEX40206-B14	
R4006	Cont, 10K	CEX40206-B14	
R4012	Bright, 10K	CEX40206-B14	
R4015	V Hold, 10K	CEX40205-A14	
R4016	H Position, 500	CEX40205-B52	
R4022	Sub Bright, 4.7K	QVZ3507-472	
R4024	Volume, 200K	CEX40205-A25	

*SAFETY COMPONENTS — Use EXACT replacement ONLY.

FUSE PCB ASSEMBLY #GE-9700A

LOCATION	DESCRIPTION	JVC PART #	COM PART #
CAPACITORS			
C9701	Metalized Mylar, .047 μF, AC125V, ±20%	QFZ9008-473M	
C9702	Metalized Mylar, .047 μF, AC125V, ±20%	QFZ9008-473M	
OTHER			
F9701	Fuse 4A	* QMF61U1-4R0S	
	Line Filter	A39475-J	

*SAFETY COMPONENTS — Use EXACT replacement ONLY.


GE·1000A
1/2W.100Ω
T602
FR601
IC601
IC201
IC301
IC501
DL201
T201
T301
T501
T503
T01
L502
L503
FR401
2W
68Ω
H.CENTER
SUB COLOR
SUB TINT.
V.LIN.
V.HEIGHT
H.FREQ
V.POSITION
WHT
BLK
12V
ORN ORN

1701 Schematic Notes

VOLTAGE & WAVEFORM NOTATIONS — Voltage readings and waveform measurements were taken with a color video signal injected at the video input terminal. Figures in ( ) represent voltage readings taken while receiving a black and white sign. Each variable resistor was set to condition at time of shipment. After adjustments have been made, the figures will vary and the figures should be used for reference only.

VOLTAGE READINGS — Multimeter set at 20KΩ/volt DC.
All values given are DC voltages.

REFERENCE WAVEFORMS — Scope sweep speed set at:
Hor - 20 μS/div Vert - 5V/div;
Unless other speed is specified.

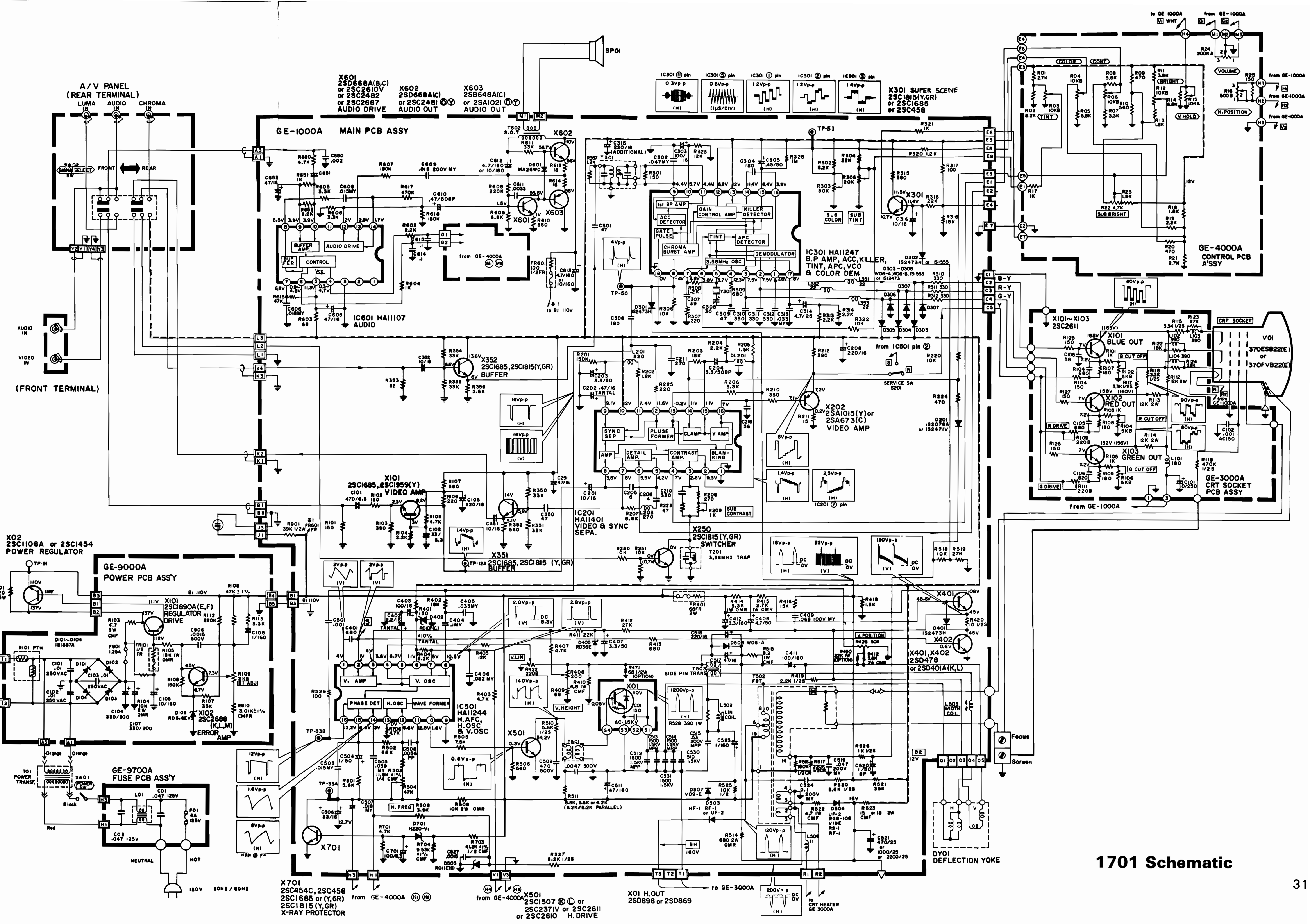
SCHEMATIC NOTES — Unless specified otherwise:

Resistors : All values are in ohms, 1/4 watt carbon
Capacitors: Values of 1 or higher are pF.
Values less than 1 are μF, 50V, ceramic
Electrolytic values are in μF, NP indicates non-polar (bipolar)
Inductors: Values are in uH

⊙ indicates a test point connection
⏚ indicates chassis ground
Hz indicates cycles per second

SAFETY — For safety, maximum reliability, and continued good performance, use specified replacement parts. All safety items have been identified with the symbol *. FR is an abbreviation for FUSIBLE RESISTOR. FR's act like fuses and are used as safety items. They are to be replaced with specified parts.

NOTICE — This circuit diagram and the circuit constants are subject to change for improvement without notice.

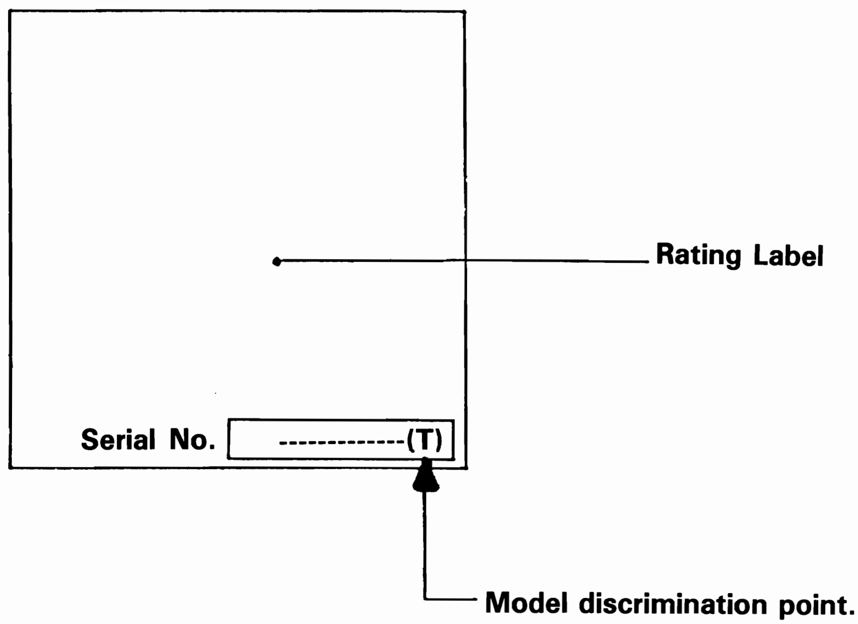


1701 Schematic

1702 MODEL IDENTIFICATION

BEFORE servicing a 1702 Monitor, please NOTE:

Some models are distinguished with the letter ''T'' next to the manufacturer's serial number.



This designation indicates that a TOSHIBA picture tube and deflection yoke were used. A difference in electrical specifications is required. The connect schematic and parts list is identified 1702 ''T''.

Monitor parts may be secured locally. JVC part numbers have been provided for your convenience. ONLY Commodore part number (C314-xxx-xx) will be available from Commodore at this time.

1702 CHASSIS PARTS

LOCATION	DESCRIPTION	JVC PART #	COM PART #
DY01	Deflection Yoke	* CJ26161-00A	
J1821	US Pin Jack Vid In	C39207-004	
J1822	US Pin Jack Aud In	C39207-003	
L01	Degausing Coil	* A39477-T	
Q1522	Silicon Transistor	* 2SD1426	
R01	Unflammable Resistor, 280Ω, 20W, ±10%	* QRF208K-281	
S01	Power Switch	* CEX40097-002	
SP01	Speaker 8Ω, 2W	EAS-10P225S	
T01	HV Module	* CJ26156-00B	
V01	Picture Tube	* 370FVB22(E)	
	PC Magnet	CE40305-00B	
	Neon Lamp	QLZ9015-001	

*SAFETY COMPONENTS — Use EXACT replacement ONLY.

1702 CABINET PARTS

LOCATION	DESCRIPTION	JVC PART #	COM PART #
1701/1702	Front Cabinet		C 314900-01
1701/1702	Front Cntrl Panel		C 314901-01
1701/1702	Power Door Button		C 314902-01
1702	Front Name Plate		C 314903-02
1701/1702	RT Side Handle		C 314904-01
1701/1702	LT Side Handle		C 314905-01
1701/1702	Rear Cabinet		C 314906-01
1701/1702	Rear A/V Terminal Assembly		C 314907-01
1701/1702	Top Cabinet Panel		C 314908-01
1701/1702	Replacement AC Cord	* QMP1460-244K	C 314909-01

*SAFETY COMPONENTS — Use EXACT replacement ONLY.

Monitor parts may be secured locally. JVC part numbers have been provided for your convenience. ONLY Commodore part numbers (C314xxx-xx) for will available from Commodore at this time.

MAIN PCB ASSEMBLY #GE-1003A

LOCATION	DESCRIPTION	JVC PART #	COM PART #
INTEGRATED CIRCUITS			
IC1201		**HA11401**	
IC1301		**HA11247**	
IC1421		**AN5515**	
IC1501		**HA11244**	
IC1601		**AN5265**	
TRANSISTORS			
Q1101		2SC1959 (Y)	
Q1201		2SA1015 (Y, GR)	
Q1251		2SC1815 (Y, GR)	
Q1301		2SC1815 (Y, GR)	
Q1341		2SC1815 (Y, GR)	
Q1342		2SC1815 (Y, GR)	
Q1501		2SA1015 (Y, GR)	
Q1521		2SC1627A	
Q1522		* 2SD1426	
DIODES			
D1201		1SS133	
D1202		W06B	
D1204		1SS133	
D1301		1S1555	
D1302		1SS133	
D1401	Zener	MA4110 (M)	
D1421		1SR124-400	
D1422		1SR124-400	
D1501	Zener	MA4110 (M)	
D1502		1SS81	
D1503		1SS133	
D1522		1SR124-400	
D1523		RM-2C	
D1524		U19E	
D1525	Zener	MA4220 (M)	
D1541		1SR124-400	
D1551		1SR124-400	

*SAFETY COMPONENTS — Use EXACT replacement ONLY.

Monitor parts may be secured locally. JVC part numbers have been provided for your convenience. ONLY Commodore part numbers (C314-xxx-xx) will be available from Commodore at this time.

MAIN PCB ASSEMBLY #GE-1003A (Continued)

LOCATION	DESCRIPTION	JVC PART #	COM PART #14
DIODES (Continued)			
D1701		1SR124-400	
D1702	Zener	* HZ7B2L	
RESISTORS			
R1414	Oxide Metal Film, 100Ω, 1W, ±5%	QRG019J-101S	
R1421	Metal Film, 1.5Ω, 2W, ±5%	* QRX029J-1R5A	
R1511	Oxide Metal Film, 56Ω, 1W, ±5%	QRG019J-560S	
R1523	Oxide Metal Film, 1K, 1W, ±5%	QRG019J-102	
R1526	Carbon, 1K, 1/2W, ±5%	* QRD121J-102SY	
R1530	Oxide Metal Film, 12, 1W, ±5%	QRG019J-120S	
R1531	Metal Film, 47, 2W, ±5%	QRX029J-4R7A	
R1532	Carbon, 1K, 1/2W, ±5%	* QRD121J-102SY	
R1534	Oxide Metal Film, 470Ω, 1W, ±5%	QRG019J-471S	
R1551	Metal Film, 2.7, 1W, ±5%	* QRX019J-2R7S	
R1607	Metal Film, 5.6, 1W, ±5%	QRX019J-5R6S	
R1701	Metal Film, 33, 1W, ±5%	* QRX019J-330S	
R1702	Metal Film, 20K, 1/4W, ±1%	* QRV141F-2002Y	
R1705	Metal Film, 14K, 1/4W, ±1%	* QRV141F-1402Y	
VARIABLE RESISTORS			
R1209	Sub Cont., 1K	QVZ3230-013	
R1303	Sub Color, 50K	QVZ3230-054	
R1305	Sub Tint, 20K	QVZ3230-024	
R1406	V. Linearity, 200	QVZ3234-022	
R1408	V. Height, 200	QVZ3234-022	
R1429	V. Position, 500	QVZ3211-052	
R1504	H. Frequency, 5K	CEX40202-053	
CAPACITORS			
C1202	Tantalium, .47 μF, 35V	QEE61VM-474BZ	
C1204	BiPolar Electrolytic, 3.3 μF, 50V	QEN61HM-335Z	
C1308	Trimmer	CEX40212-001	
C1342	BiPolar Electrolytic, 10 μF, 16V	QEN61CM-106Z	
C1402	Tantalium, 2.2 μF, 16V	QEE61CK-225BZ	
C1404	Mylar, .1 μF, 50V	QFZ0083-104M	
C1406	Mylar, .056 μF, 50V	QFZ0083-563M	
C1423	Electrolytic, 100 μF, 35V	* QET51VR-107	

*SAFETY COMPONENTS — Use EXACT replacement ONLY.

Monitor parts may be secured locally. JVC part numbers have been provided for your convenience. ONLY Commodore part numbers (C314-xxx-xx) will be available from Commodore at this time.

MAIN PCB ASSEMBLY #GE-1003A (Continued)

LOCATION	DESCRIPTION	JVC PART #	COM PART #
C1425	Electrolytic, 470 μF, 35V	* QET51VR-477	
C1426	TF, .15 μF, 50V	QFV81HJ-154M	
C1502	Electrolytic, 220 μF, 35V, +30%, −10%	* QET51VR-227	
C1508	Polypropylene, 5600 pF, 100V	QFP32AJ-562M	
C1523	Electrolytic, 33 μF, 160V	* QET52CR-336	
C1526	Metalized Polypropylene, 5000 pF, 1600V	* QFZ0081-5001S	
C1529	Metalized Polypropylene, .53 μF, 200V	QFZ0067-534S	
C1530	Electrolytic, 2.2 μF, 50V	QEN61HM-225Z	
C1531	Electrolytic, 470 μF, 25V, +30%, −10%	* QET51ER-477	
C1534	Metalized Polypropylene, 1500 pF, 1600V, ±3%	* QFZ0081-1501S	
C1535	Mylar, .082 μF, 100V, ±10%	* QFM72AK-823M	
C1541	Electrolytic, 1 μF, 160V, +30%, −10%	QET62CR-105Z	
C1551	Electrolytic, 1000 μF, 16V, +30%, −10%	* QET51CR-108	

COILS

L1201	Peaking Coil, 820 μH	A76186-820Z	
L1203	Peaking Coil, 270 μH	A76186-270Z	
L1301	Peaking Coil, 22 μH	A76186-22Z	
L1302	Peaking Coil, 22 μH	A76186-22Z	
L1303	Peaking Coil, 22 μH	A76186-22Z	
L1521	Lin. Coil	* CE40052-001	
L1522	W. Coil	* CE40140-00F	
L1523	HVT Choke	CE40037-560	
L1524	Heater Choke	CJ30030-100	

TRANSFORMERS

T1201	Trap, 3.58 MHz	A75537-0	
T1301	BP, 3.58 MHz	CE40476	
T1521	SW Drive	* CE40361-00B	

MISCELLANEOUS

DL1201	Delay Line	CE40535-001	
S1201	Service Switch (Lever)	CEX40078-001	
X1301	Crystal	A76351-D	

*SAFETY COMPONENTS — Use EXACT replacement ONLY.

Monitor parts may be secured locally. JVC part numbers have been provided for your convenience. ONLY Commodore part numbers (C314xxx-xx) will be available from Commodore at this time.

CONTROL PCB ASSEMBLY #GE-1003A (4/6)

LOCATION	DESCRIPTION	JVC PART #	COM PART #
VARIABLE RESISTORS			
R1854	Cont, 10K	CEX40206-B14	
R1860	Bright, 10K	CEX40206-B14	
R1863	Sub Bright, 4.7K	QVZ3507-472	
R1866	Tint, 10K	CEX40206-B14	
R1869	Color, 10K	CEX40206-B14	
R1871	Volume, 10K	CEX40205-B14	
R1875	V. Hold, 10K	CEX40205-A14	
R1877	H. Position, 1K	CEX40205-B13	
MISCELLANEOUS			
L1851	Peaking Coil, 820 μH	A76186-820Z	
SW1821	Slide Switch (Signal Select)	CEX40325-001	
J1821	US Pin Jack (Video In)	C39207-004	
J1822	US Pin Jack (Audio In)	C39207-003	

Monitor parts may be secured locally. JVC part numbers have been provided for your convenience. ONLY Commodore part number (C314xxx-xx) will be available from Commodore at this time.

CRT SOCKET PCB ASSEMBLY #GE-1003A (3/6)

LOCATION	DESCRIPTION	JVC PART #	COM PART #
TRANSISTORS			
Q1351		2SC2611	
Q1352		2SC2611	
Q1353		2SC2611	
DIODES			
D1351	Silicon	RM-2C	
RESISTORS			
R1357-R1359	Oxide Metal Film, 12K	QRG029J-123	
R1360-R1362	Composition, 3.3K	QRZ0039-332	
R1378	ZN	ERZ-C05ZK271	
VARIABLE RESISTORS			
R1352	B Cut Off, 5K	CEX40302-053	
R1354	R Cut Off, 5K	CEX40202-053	
R1356	G Cut Off, 5K	CEX40202-053	
R1369	R Drive, 200	CEX40202-022	
R1371	G Drive, 200	CEX40202-022	
CAPACITORS			
C1351	Electrolytic, 4.7 μF, 250V	* QET52ER-475	
C1352	Ceramic, 1000 pF, 3K V	QCZ9017-102M	
C1356	Electrolytic, 4.7 μF, 250V	QET52ER-475	
MISCELLANEOUS			
L1351	Peaking Coil, 180 μH	QQL043K-181	
	CRT Socket	* CE40085-00A	

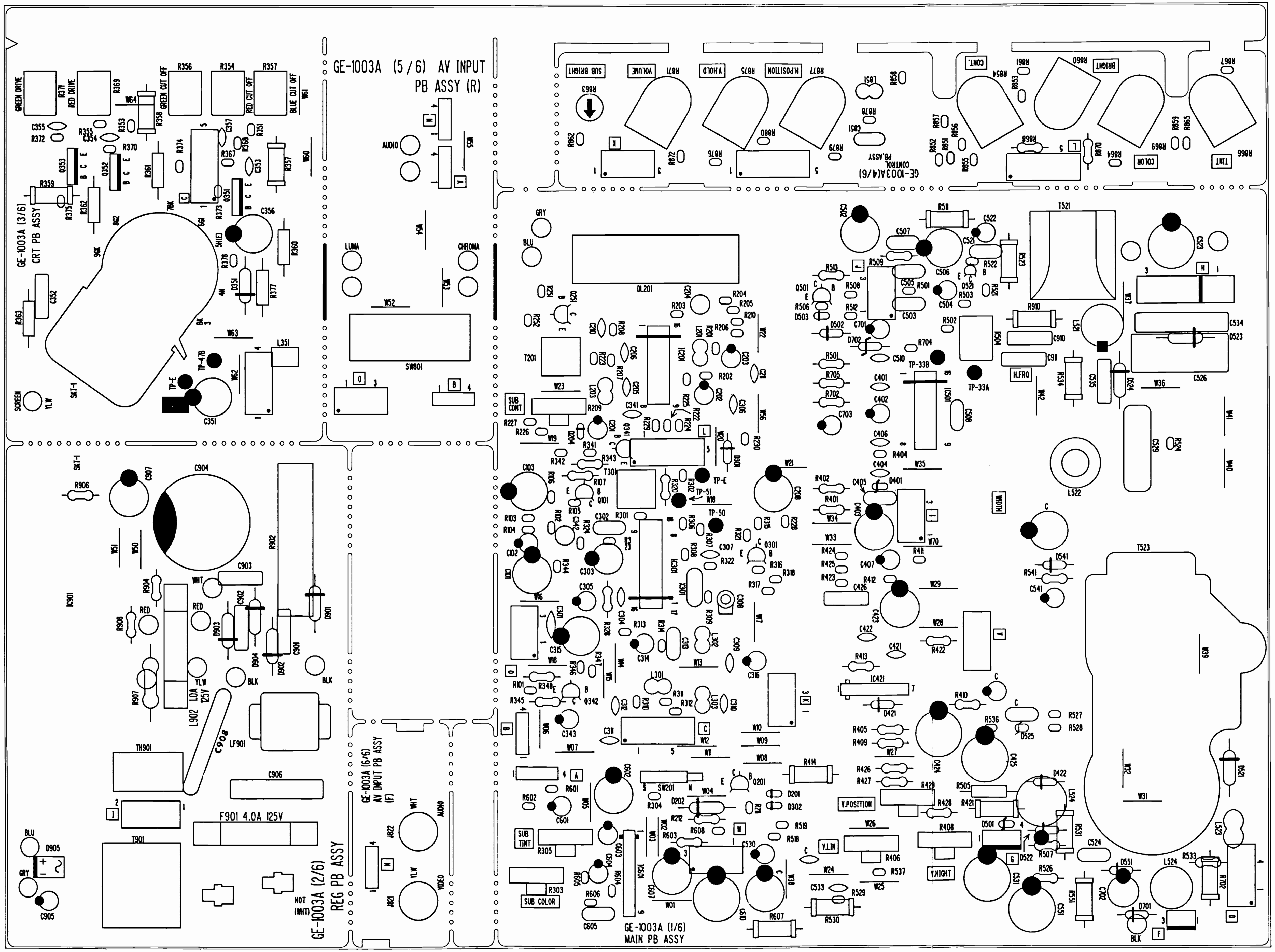
*SAFETY COMPONENTS — Use EXACT replacement ONLY.

Monitor parts may be secured locally. JVC part numbers have been provided for your convenience. ONLY Commodore part number (C314xxx-xx) will be available from Commodore at this time.

REGULATOR PCB ASSEMBLY #GE-1003A (2/6)

LOCATION	DESCRIPTION	JVC PART #	COM PART #
INTEGRATED CIRCUITS			
IC1901		* STR3125	
DIODES			
D1504	Bridge Rectifier	* 1B4B42	
D1901-D1904	Si	* 1S1887A	
RESISTORS			
R1902	Non-flammable, 2, 7W	* QRF076K-2R0	
R1907	Metal Film, 4.7, 2W	* QRX029J-4R7A	
R1910	Composition, 6.8M, 1/2W	QRZ0039-685	
CAPACITORS			
C1901-C1903	Ceramic, 4700 pF	* QCZ9021-472U	
C1904	Electrolytic, 470 μF, 200V, $\pm$20%	* QEU720M-477M	
C1906	Metal Film, .1 μF	* QFZ9020-104M	
C1907	Electrolytic, 10 μF, 160V, +30%, −10%	QET52CR-106	
C1908	Metal Film, .1 μF	QFZ9020-104M	
C1910-C1911	Ceramic, .1 μF	QCZ9020-472M	
MISCELLANEOUS			
L1901	Coil — Line Filter	* CE40247-00A	
T1901	Power Transformer	* CE40489-00A	
F1901	Fuse, 4A	* QMF66U1-4R0S	
F1902	Fuse, 1A	* QMF66U1-1R0S	
TH1901	Thermistor	* CEX40137-001	

*SAFETY COMPONENTS — Use EXACT replacement ONLY.


GE-1003A (3/6) CRT PB ASSY
GE-1003A (5/6) AV INPUT PB ASSY (R)
GE-1003A (4/6) CONTROL PB ASSY
GE-1003A (2/6) REG PB ASSY
GE-1003A (6/6) AV INPUT PB ASSY (F)
GE-1003A (1/6) MAIN PB ASSY
F901 4.0A 125V
L0A 125V

1702 Schematic Notes

VOLTAGE & WAVEFORM NOTATIONS — Voltage readings and waveform measurements were taken with a color video signal injected at the video input terminal. Each variable resistor was set to condition at time of shipment. After adjustments have been made, the figures will vary and the figures should be used for reference only.

VOLTAGE READINGS — Multimeter set at 20KΩ/volt DC.
All values given are DC voltages.

REFERENCE WAVEFORMS — Scope sweep speed set at:
Hor - 20 μS/div Vert - 5V/div;
Unless other speed is specified.

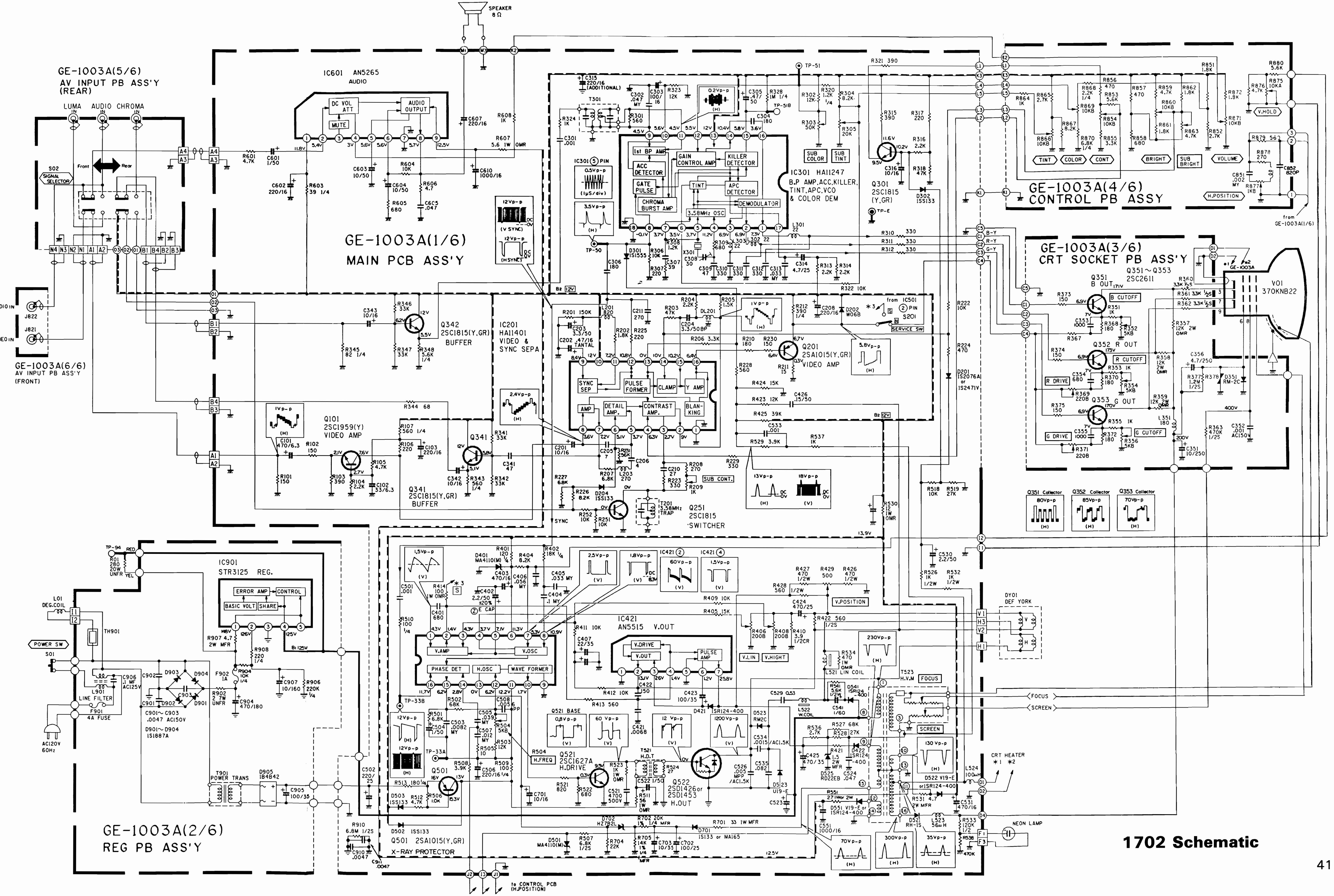
SCHEMATIC NOTES — Unless specified otherwise:

Resistors : All values are in ohms, 1/6 watt carbon.
Capacitors: Values of 1 or higher are pF.
Values less than 1 are μF, 50V, ceramic.
Electrolytic values are in μF, NP indicates non-polar (bipolar).
Inductors: Values are in uH.

⊙ indicates a test point connection
⏚ indicates chassis ground
Hz indicates cycles per second

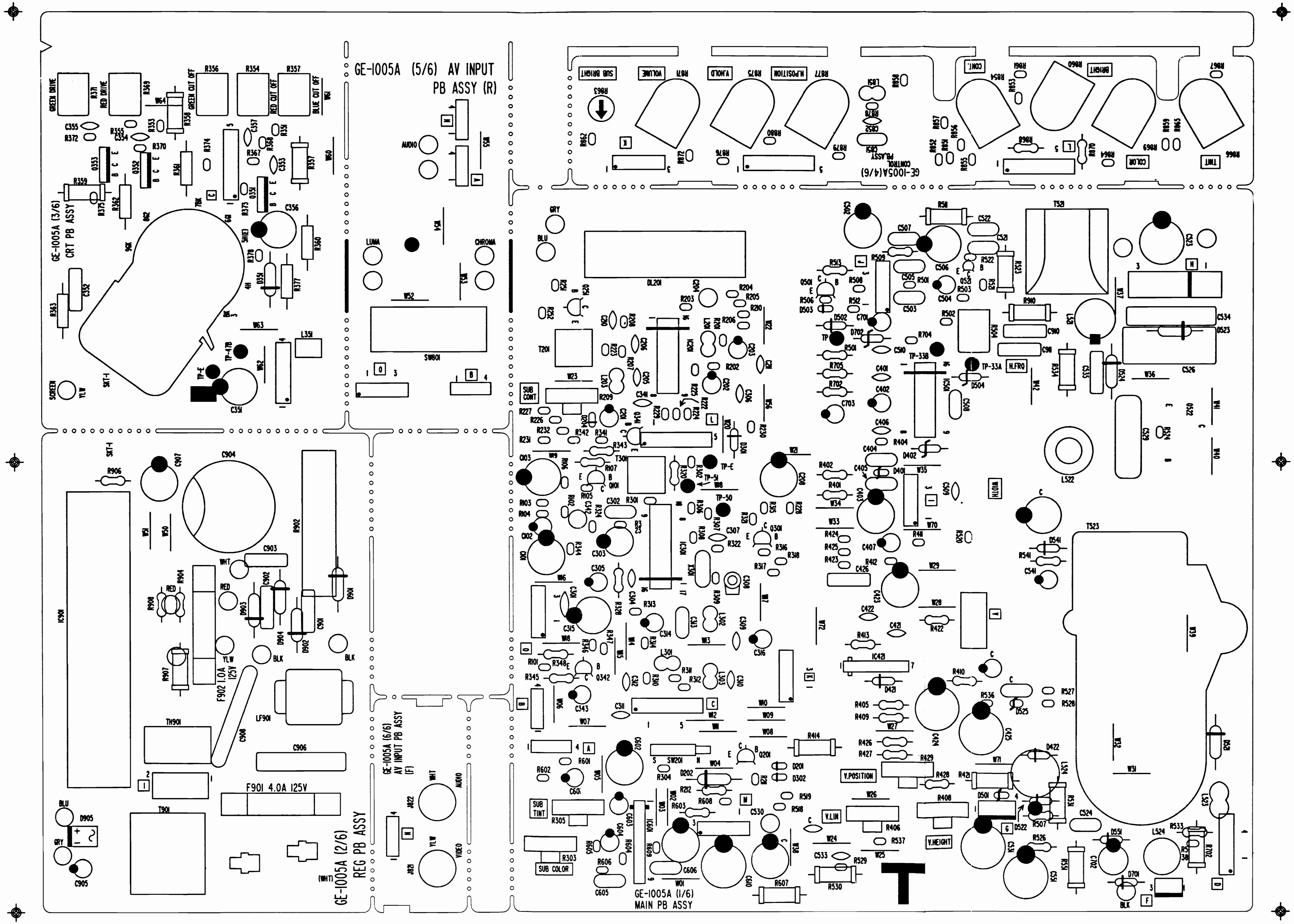
SAFETY — For safety, maximum reliability, and continued good performance, use specified replacement parts. All safety items have been identified with the symbol *. FR is an abbreviation for FUSIBLE RESISTOR. FR's act like fuses and are used as safety items. They are to be replaced with specified parts.

NOTICE —This circuit diagram and the circuit constants are subject to change for improvement without notice.



1702 Schematic

1702T Board Layout



1702T UNIQUE PARTS

Monitor parts may be secured locally. JVC part numbers have been provided for your convenience. ONLY Commodore part number (C314xxx-xx) will be available from Commodore at this time.

1702T

LOCATION	DESCRIPTION	JVC PART #	COM PART #
CHASSIS PARTS			
V01	Picture Tube	* 370NVB22-AB	
DY01	Def. Yoke	* CE20037-00A	

*SAFETY COMPONENTS — Use EXACT replacement ONLY.

MAIN PCB ASSEMBLY # GE-1005A

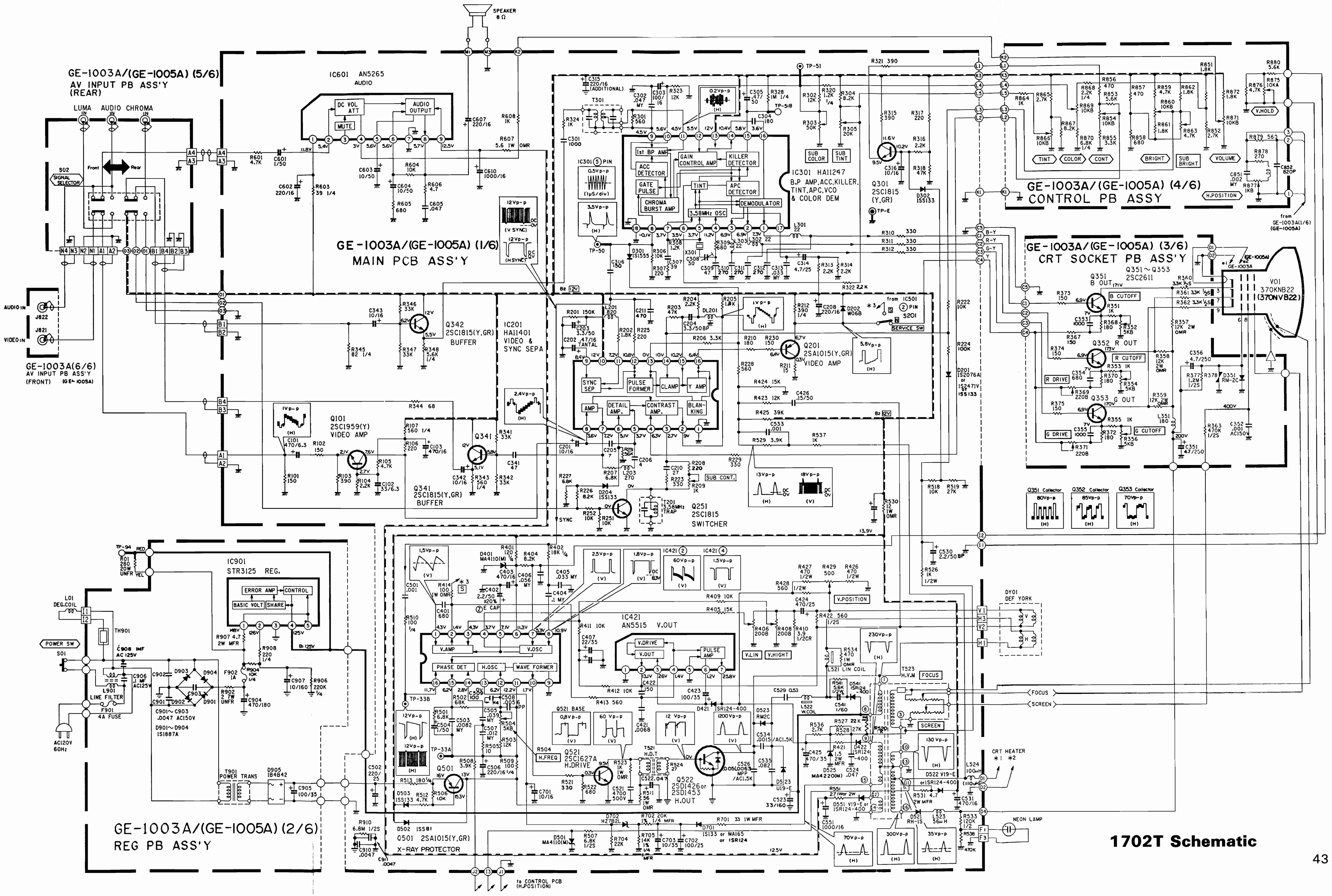
LOCATION	DESCRIPTION	JVC PART #	COM PART #
DIODES			
D1402		RD6.8E (B)	
D1521		* RH-1S	
RESISTORS			
R1421	Metal Film, 6.8, 2W, ±5%	* QRX029J-6R8A	
R1533	Ceramic, 120K, 1/2W, ±5%	* QRD121J-124SY	
VARIABLE RESISTORS			
R1305	Sub Tint, 5K	QVZ3230-053	
CAPACITORS			
C1526	Metalized, Polypropylene, 6300 pF, 1600V, +3%	* QFZ0081-6301S	

*SAFETY COMPONENTS — Use EXACT replacement ONLY.

REG. PCB ASSEMBLY # GE-1005A

LOCATION	DESCRIPTION	JVC PART #	COM PART #
RESISTORS			
R1904	Ceramic, 10K, 1/2W, ±5%	* QRD1295-103S	

*SAFETY COMPONENTS — Use EXACT replacement ONLY.



1702T Schematic

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